JANUARY 1948

Engineer

It isn't a bit too early to do some serious thinking* about the trade-in value of that new offset press or power paper cutter—*which you haven't even ordered.*

*You can be reasonably sure, if the equipment you purchase today has little to recommend it beyond the promise of 'immediate delivery", that such a selling point will have lost much of its glitter when you are ready to talk "trade-in".

Rebuilt Harris offset presses and Seybold paper cutters have, for a great many years, brought top prices in the used machinery field. Many of the same qualities responsible for the original purchase of Harris-Seybold equipment, such as *established acceptance in the graphic arts industry . . . traditionally rugged construction . . . availability of replacement parts . . .* have been important reasons why rebuilt Harris-Seybold equipment has always been in demand.

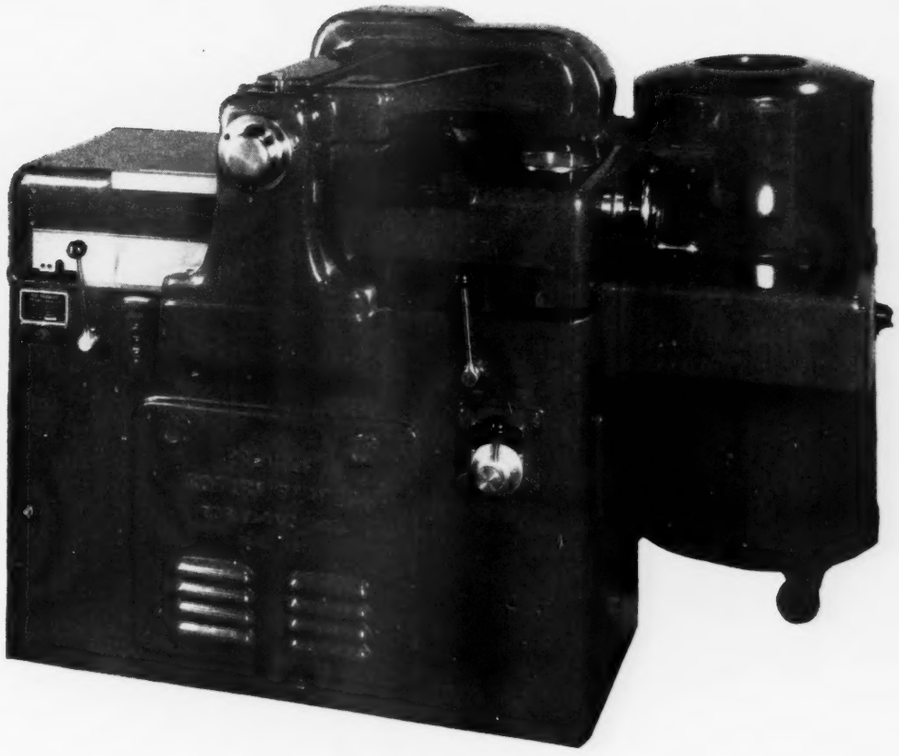
When the time comes for you to part with that offset press or paper cutter *"which you haven't even ordered"* . . . will *you* get the top trade-in dollar?

you'll be glad you waited a little longer for

HARRIS OFFSET PRESSES • SEYBOLD PAPER CUTTERS

OTHER HARRIS-SEYBOLD GRAPHIC ARTS EQUIPMENT

"PREMIER"—THE WORLD OVER



"Austerity" program or no, the British know a superlative piece of machinery when they see it . . . And scores of English printing craftsmen, publishers, plant operators have for the past few weeks been admiring a Premier Rotary Shaver on display in the showrooms of our London agents in Woodbridge Street . . . Many have already placed orders for delivery when conditions permit.

This same fine discernment is shown by their cousins "Down Under", where such outstanding publications as the Star-Sun of Christchurch, New Zealand and the Sydney, Australia, Sun have chosen the Premier for handling their flat shaving work.

The "Stockholms-Tidningens" in Stockholm, Sweden, will soon be operating one of these fine machines . . . And down in San Juan, Puerto Rico, "Prensar Insular" recently started up a new Premier.

But you don't have to travel far right here in the United States to see a Premier on the job . . . Scores of them are scattered from coast to coast, in large plants and small, performing a precision task day in and day out, making money for their owners.

STA-HI

STA-HI CORPORATION

1020 CROCKER STREET LOS ANGELES 21, CALIF.

AN OPEN LETTER

Presenting the Facts on Production and Delivery

To those who have bought—are planning to buy—or are using Saw Trimmer Equipment—we are taking this opportunity, at the start of a New Year, to let you know what we are doing.

MODEL 3-A

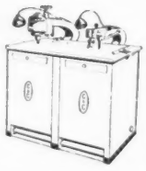
During the past year most of our productive capacity has been devoted to the C&G Model 3-A Saw Trimmer. Many of you have received new 3-A Saw Trimmers and an equal number still have them on order. Hundreds of machines have been shipped. Production has improved steadily. Lead time has been cut during the year from ten months to seven. If you have a C&G Model 3-A Saw Trimmer on order, check with your supplier for probable delivery date. If you are just ordering new Saw Trimmers, see the C&G Model 3-A first. Write for list of users in your vicinity—check on delivery schedule. Don't sacrifice good saw trimmer equipment in your plant. You will use a saw trimmer a minimum of twenty years—it is wise to wait, if necessary, to get the best. The C&G Model 3-A is the best.

MODEL 45

The newest model C&G Saw Trimmer featuring the new and novel "Pistol Grip" elevating mechanism for positioning the saw blade. We had hoped to be shipping this model sooner, but unavoidable delays set this back about six months. The Model 45 is now in regular production and a few machines are being shipped. Although present lead time is about eleven months, we expect this to improve greatly now that the ball is rolling. The Model 45 is a medium priced machine, and we are proud to say, will outclass anything in its field.

C & G SAWLINER

Still the outstanding low priced saw. Due to conditions has been necessary for us to put it in the background. The Sawliner has been in intermittent production and a few have been shipped. For the present at least, delivery of the Sawliner will be indefinite.



C & G ROUTER, JIGSAW & TYPE-HIGH MACHINE

In the process of redesign and currently not in production. It is anticipated that we can announce something on this later in the year.

MORRISON SLUG STRIPPER

The newest thing in composing room saw equipment. Reduces any slug or single type character to thickness of zinc, electrotype or shell stereotype. Indispensable for making plate corrections or preparing type for floating composition. Now in production and shipments expected to begin almost immediately.

MORRISON SPACE-BAND CLEANER

We have taken over the Fuller machine, formerly made in New York. In the process of minor design changes and preparation for production. Expect shipments to begin within a few months.

PRICES

We are proud of our record on prices. Increases have been less than 20 per cent over pre-war. We hope to keep them there. This has been possible through diligent effort and full use of new and modern tools and machinery installed in our new plant, one of the most modern in the industry.

SUMMARY

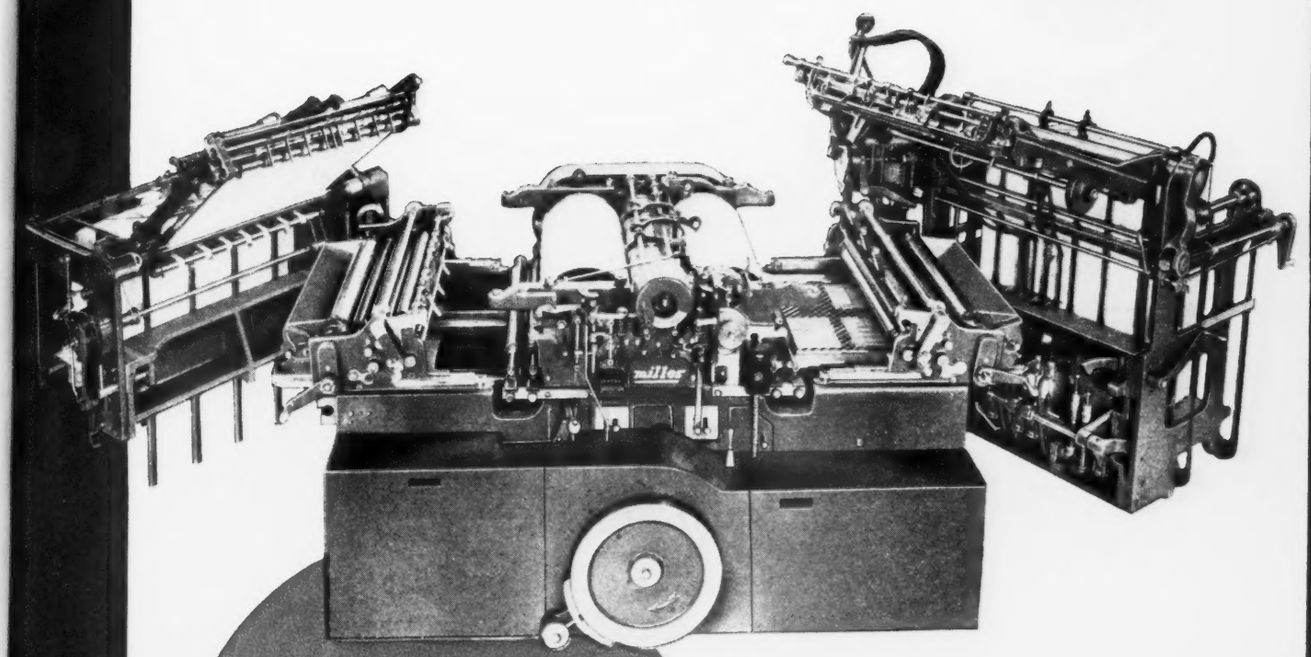
We are proud of our record and the impressive list of plants using our equipment. We appreciate the contacts we have had with you during the past year, and will make every effort to continue to merit your good favor during the year to come.

Geo. Morrison

THE MORRISON COMPANY

125 W. MELVINA STREET • MILWAUKEE, WISCONSIN

We proudly present...



the new Miller 21 x 28 two color press

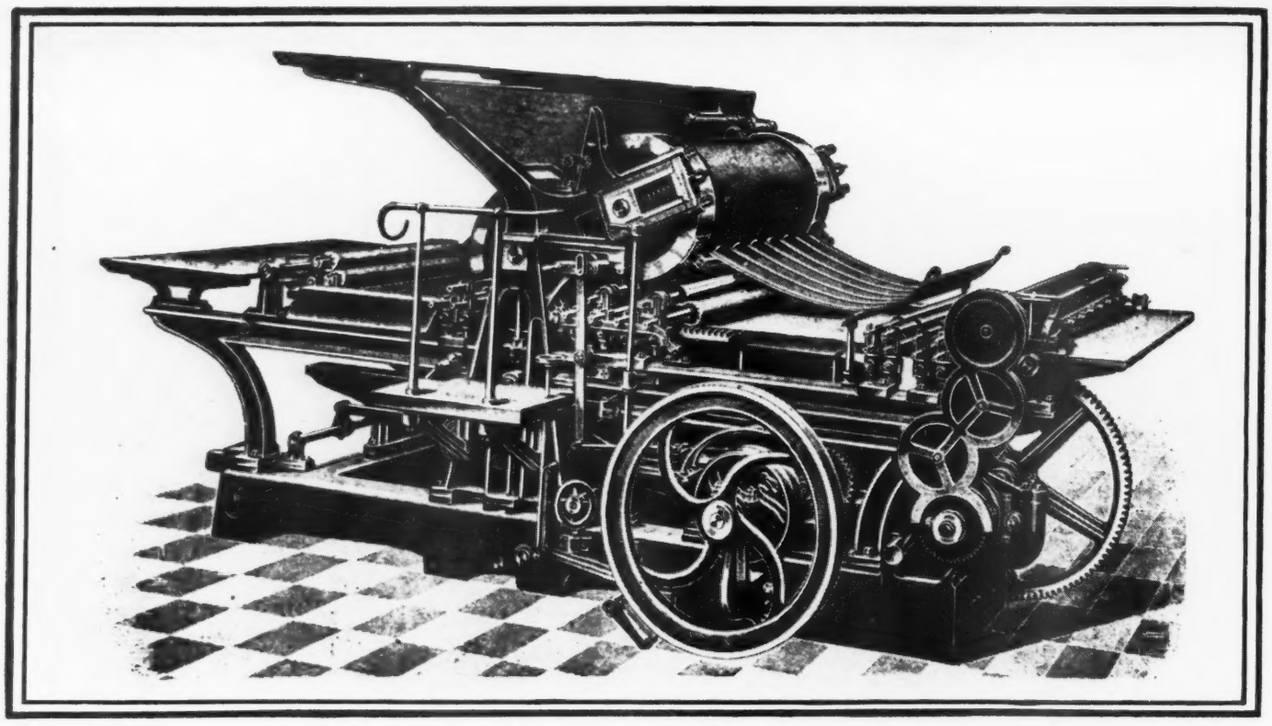
This press is another addition to the growing Miller family of modern fully automatic cylinder letterpresses. It is heavily built, unusually compact, 4000 to 8000 single color impressions per hour, smooth running, fine register, and above all easily operated with controls at your finger-tips. If you see it in operation — you'll want one. May we send you a specimen sheet from the first run?

SPECIFICATIONS

Maximum Sheet	21" x 28"
Maximum Size Form in Chase	19¼" x 26" each
Range of Operated Speed	2000 to 4000 (8000 impressions)
Overall Dimensions	5'4" x 12'6"

MILLER PRINTING MACHINERY CO.

Pittsburgh, Pa.

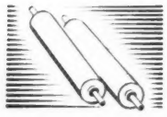


TIN-PLATE PRINTING PRESS: Circa 1890

EVEN WHEN "TIN-PRINTING" WAS THE ONLY "OFF-SET" PRINTING

SAM'L BINGHAM'S SON MFG. CO. rollers

were helping lithographers please their customers



Off-set printing on paper was discovered by accident, and didn't come into use until early in the 20th century. But off-set printing dates back to 1875 when the process was first used for decorating tin-plate.

Zinc was discovered to be a satisfactory substitute for the lithographer's stone in 1813 and was later used in photo-engraving which was invented in 1878. Even as late as 1917, the dour prediction was made that "color never would be possible by off-set."

The steps of progress in the graphic arts industry have been giant's strides, since 1847, when SAM'L BINGHAM'S SON MFG. CO. began in business.

In each new change, SAM'L BINGHAM'S SON MFG. CO. has had the part of developing new kinds of inking rollers to meet the new demand.

Today, through 16 conveniently located factories, SAM'L BINGHAM'S SON MFG. CO. continues to supply "the right roller right away."

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

THERE'S A FACTORY NEAR YOU:

ATLANTA 3	DES MOINES 2	KALAMAZOO 12	OKLAHOMA CITY 6
CHICAGO 5	DETROIT 10	KANSAS CITY 6	PITTSBURGH 3
CLEVELAND 14	HOUSTON 6	MINNEAPOLIS 15	ST. LOUIS 2
DALLAS 1	INDIANAPOLIS 2	NASHVILLE 3	SPRINGFIELD, O.

ONE HUNDRED YEARS OF ROLLER MAKING

PRINTING EQUIPMENT *Engineer*

Volume 75 Number 4

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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INDUSTRIAL ELECTRONICS MAINTENANCE

by C. A. ROETGER

An elementary explanation of the elementals of electronic circuits and devices, many of which are adaptable to the production operation of equipment. Among these are motor drives and controls, relays and measuring circuits, regulators, servo systems and automatic machinery controls, including electronic heating of various kinds.

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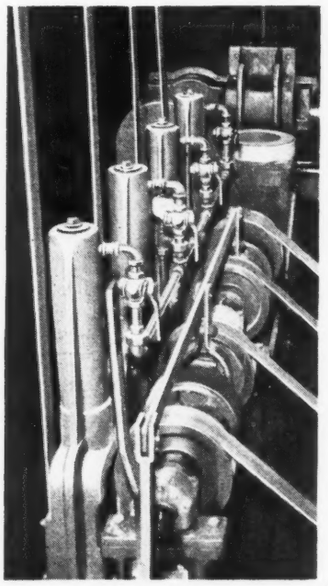
pneumatic tension alone
FEEDS PAPER (in rolls)
ON A CUSHION OF AIR



Each air-piston acts independently ... each belt tension adjusts instantly to correct any variation, even in the web itself. The entire system becomes a powerful "brake", whenever you need to use the Red Button stop.

A soft cushion ..."gentle as air itself" ... yet just as instantly responsive to the slightest change in pressure ... controls every inch of the unwinding web ... when your reels are fitted with Wood *Pneumatic* tensions. Simply select the tension desired ... and it remains constant, unvarying, *throughout the run, even during splicing.* Used with Wood Reels and Autopasters, Pneumatic tension makes top-speed web splices fully automatic. Write for illustrated Brochures. Wood Newspaper Machinery Corporation, Plainfield, N. J. Executive Offices: 501 Fifth Avenue, New York 17, N. Y.

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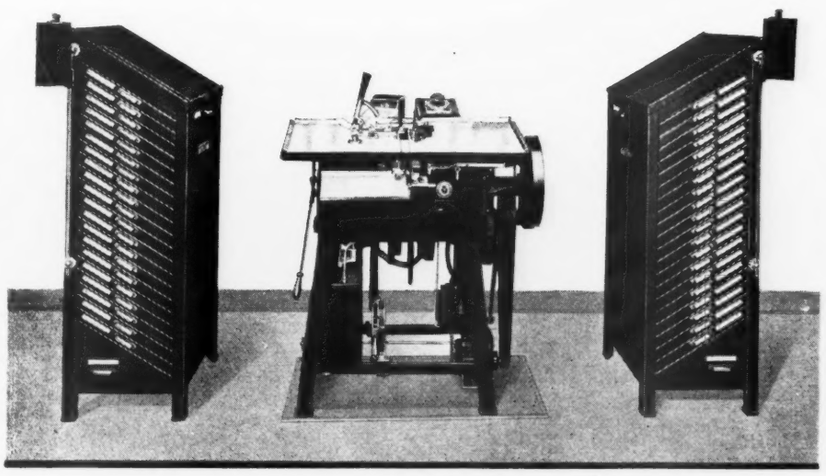
with fixed belts for newsprint
with running belts for
delicate stock and paper-converting

LUDLOW

All-Slug System



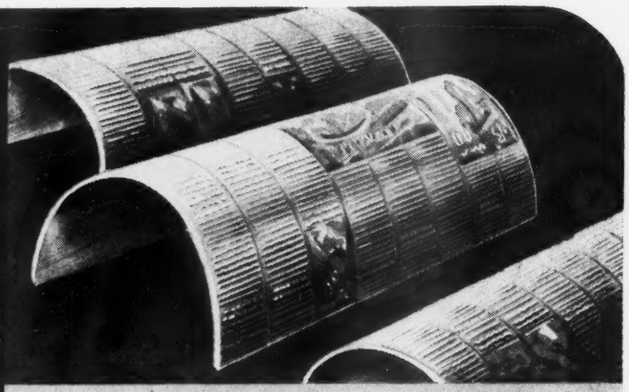
- Makes possible the immediate production of display and job composition from 4-point to 96-point.
- Produces clean-cut composition in sluglines, expediting make-up and lockup, and reducing press makeready.
- Permits real economy with multiple forms, utilizing full press capacity, and avoiding electrotyping delays.
- Enables work to be concentrated within a compact area, resulting in better output without lost motion.
- Offers a wide variety of Ludlow-designed typefaces, including unbreakable italics and scripts, as well as roman.
- Affords time-saving system of ruleform composition, together with attractive lining typefaces.
- The Ludlow requires no experts for satisfactory operation, nor special care; the machine is simple in design and mechanism.

Elrod

for leads, slugs, rules and base material of highest quality

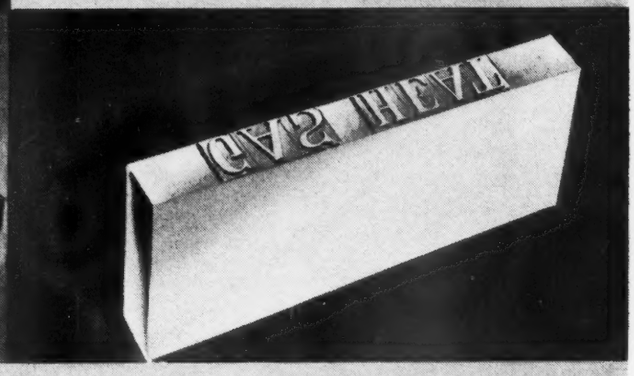
Ludlow Typograph Company . . . 2032 Clybourn Avenue, Chicago 14, Illinois

FLEXIBLE *GAS* HEAT SOURCE FOR ALL THE *Graphic Arts*



Behind the headlines of the press of America, GAS makes the news in the stereo rooms of hundreds of newspapers.

Behind the illustrations in the news and trade press, flexible GAS performs several important functions in electrotype production.



This line of machine-set type came from an *Intertype machine* in which delicately controlled flames of GAS kept the type metal at precisely the required temperature.

To speed production in the plants which print the millions of copies of weekly news magazines Gas-fired dryers prevent smudging by drying ink at press speed.

In the bindery, too, GAS keeps the glue pots at the correct temperature, cures cover stocks, provides heat whenever and wherever needed.

And these are just some of the many applications of GAS in the graphic arts—reminders that flexible, clean, controllable GAS has no equal as a heat source. Your local Gas Company Representative will bring you up-to-date on developments.

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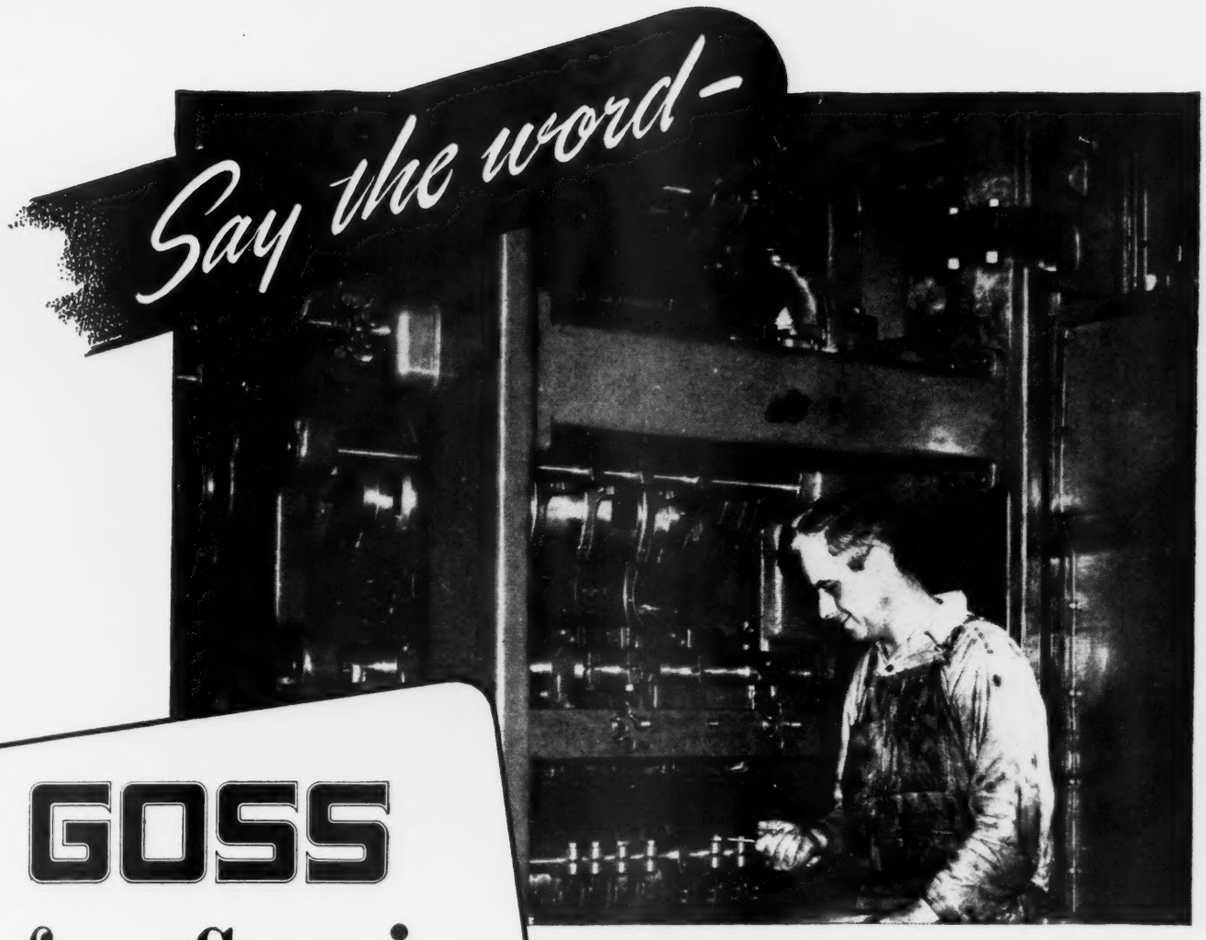
420 LEXINGTON AVENUE, NEW YORK 17, N.Y.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING



GOSS for Service

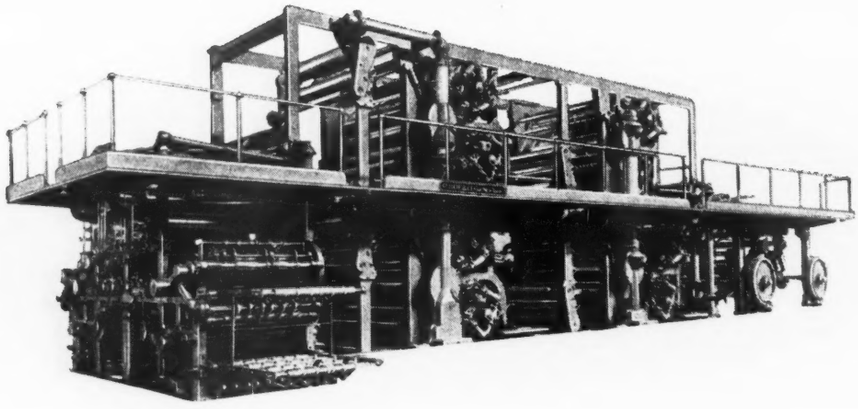
ON ALL MODELS OF GOSS AND DUPLEX PRESSES

In case of emergency—call Goss! . . . But it's not wise to wait till the last minute—if you can possibly avoid it. Try to anticipate your repair and replacement needs in advance so that Goss service men and materials can be on the job at an opportune time. It is highly recommended that you refer *all* your service problems to Goss and use only standard parts on all models of Goss and Duplex presses. Proper maintenance will enable you to keep your presses running at peak efficiency without costly interruptions. Refer to the new Goss Service Bulletin; it contains detailed instructions for obtaining service on both Goss and Duplex equipment.

THE GOSS PRINTING PRESS COMPANY
1535 SOUTH PAULINA STREET, CHICAGO 8, ILLINOIS

●

DUPLEX DIVISION, BATTLE CREEK, MICHIGAN
GOSS PRINTING PRESS CO., LTD., PRESTON, ENGLAND



meets the exacting *demands*

of today's magazine printing

Modern magazine production, more exacting than ever before, demands the finest printing quality, a wide variety of well-registered color, high speed and great productivity.

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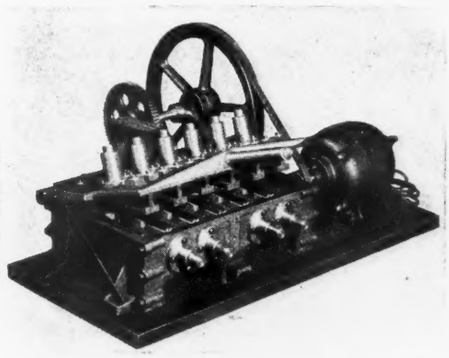

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- Saves energy and the matrices.
- The ease made possible encourages cleaning spacebands as often as standard practice requires.
- Cleans six spacebands at a time thoroughly and safely by the undisputed principle employed in the hand method, with the added advantage of mechanical uniformity.

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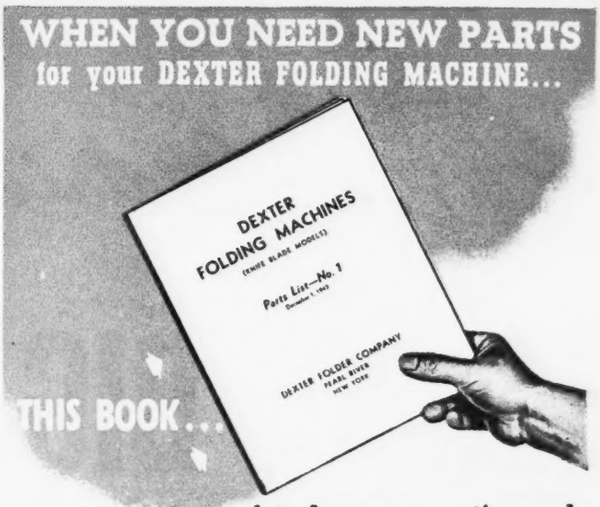


. . . . can save you a lot of unnecessary time and correspondence.

In it you'll find at a glance the stock numbers of the wanted parts—with diagrams and sufficient description to insure quick identification. Keeping the right "Parts Book" handy saves possible delay and misunderstandings. In writing for your copy, please be sure to state which Dexter Model or models you use. Address

Dexter Folder Company

PEARL RIVER, NEW YORK

TYPE METAL REMELTING FURNACES

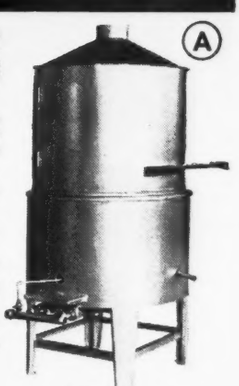
(A) 'Surface' Type Metal Remelting Furnace equipped with Atmospheric Burner and hood. Available in capacities up to 2500 pounds of metal.

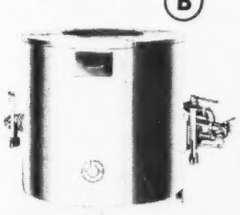
(B) 'Surface' Type Metal Remelting Furnace equipped with Pressure Burner. Available in capacities up to 3200 pounds of metal.

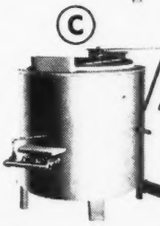
(C) Furnace equipped with atmospheric burner and bottom outlet.

(All types can be equipped with hood)

'Surface' Gas-Fired Furnaces for type metal remelting are designed to provide the industry with an efficient, rapid remelting furnace of long life.







WRITE FOR BULLETIN SC-130

2634A

'Surface' *Standard Rated* FURNACES

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

BEVERIDGE

has Doubled Production

of DRY MATS

ALL GRADES
NOW READY FOR SHIPMENT

Beveridge Dry Mats

Installation of New Machinery Completed
Beveridge Meets Increased Demand

New Products Division
THE BEVERIDGE PAPER COMPANY
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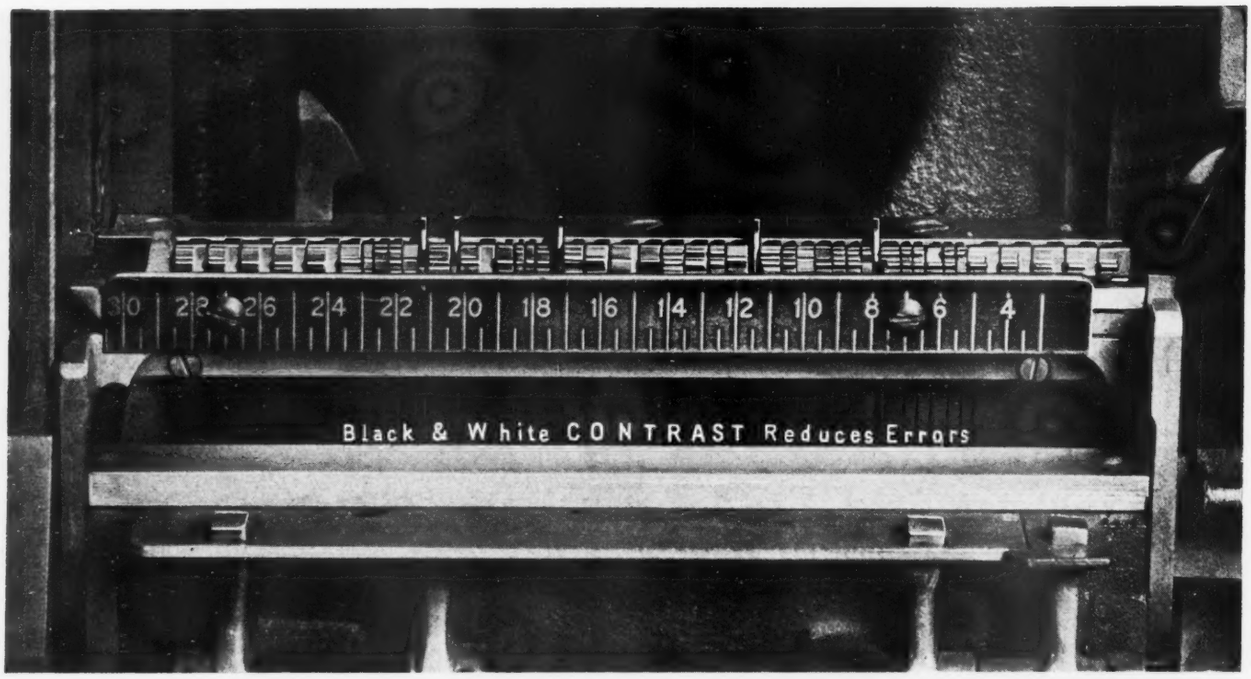
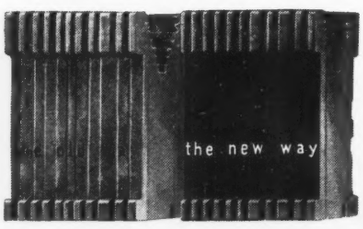
PAYS BIG DIVIDENDS



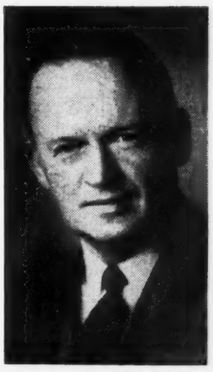
Matrix Contrast Service saves an average of one-third of all errors in original machine composition. This means not only a saving in operator and machine time ordinarily devoted to setting correction lines, but also saves the time of proofreaders, floormen and others. Besides, Matrix Contrast Service reduces eye-fatigue, conserves energy and promotes increased production.

NOW, COLOR—Matrix Contrast Service now offers reference marks processed in red, green, yellow, or orange against a jet black background. These distinctive colors on different fonts aid in detecting wrong font errors and provide quick, positive selection of "pi" matrices. Write today for complete information on this new, optional feature of Matrix Contrast Service.



MATRIX CONTRAST CORPORATION, Empire State Building, New York 1, N. Y.—1105 Trenton St., Los Angeles 15, Calif.—326 W. Madison St., Chicago 6, Ill.—Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woolbridge Street, Clerkenwell Green, London, E. C. I.

Matrix Contrast Service



Donald L. Boyd, President, Printing Industry of America, Inc., and General Manager, Standard Printing & Publishing Co., Huntington, W. Va.

Some Thoughts on Printing Education Week

By DONALD L. BOYD

President, Printing Industry of America

IT WOULD take the wisdom of Benjamin Franklin himself to provide all answers to the problems confronting the commercial printing industry of the United States as it celebrates Printing Education Week in 1948. But Printing Education Week is an occasion for looking to the future rather than for contemplating the present. Emphasis is on education of a new generation for participation in our work, and for renewing the public's goodwill for the industry which Benjamin Franklin started building up in pre-revolutionary days.

Our industry has a glorious tradition of education, and Printing Education Week is a logical time to reaffirm our belief in this tradition. Printing Industry of America has urged every local association affiliated with it to participate wholeheartedly in the effort. As an industry we need more and better educated craftsmen and managers. And experience and research have taught us that as an industry we are dependent for the growth of our sales on better educated consumers.

Need for Education of the Young

During the war, we recognized that we would be faced with a greatly increased demand for printing and inadequate manpower to produce it. Demand for printing is growing and our craftsmen are getting older. We need vigorous, intellectually and mechanically well equipped young people, boys who are prepared to make the real effort that it takes to learn a skilled trade and who have the judgment which enables them to look forward to secure employment in a well established field.

Must Carry Concepts to People

Unfortunately, concepts about our industry which seem self-evident to us are not so apparent to those who are not part of our industry. Our message about the advantages of employment in the printing industry must be carried to the people. We must reach the young men in the schools. And having aroused their interest, we must be prepared to satisfy it.

There are many hundreds of vocational schools where printing in some form is taught but we must step up our educational work in order to achieve a higher degree of skill at the vocational school level. It is fine to build an appreciation of printing through a casual course in it, but for such education to be of real value to the industry and to the student,

it must be intensive and aimed at the goal of teaching trained journeymen. On the basis of what we know today about the manpower needs of the industry and the probable future demand for printing, I believe that we can safely predict that any boy who will learn a printing trade well will be assured of good employment during his life time.

Recruit New Manpower

Unless we are more aggressive in recruiting new manpower we will face in a few years a crisis which will make our current shortage seem a casual annoyance. The average age level of journeymen in the skilled trades in the printing industry is approaching 60 years. In one major city, 20% of the employees have had 40 years or more service in the industry. This means we must really concentrate on the problem. Everyone in the industry: management, labor, machinery manufacturers, and every other group which has a stake in this industry must make a major effort. The printer who today fails to train new workers is like the farmer who neglects to plant the seed.

Training Management and Labor

Printing Industry of America has undertaken this year under the leadership of its Education Committee production of nine basic texts designed for the training of management and labor within the industry. As evidence of their real concern about this problem, more than 250 of the nation's commercial printers have each subscribed $200 to the underwriting fund for the preparation of these texts. Within a very short time PIA should be able to announce that the entire sum of $100,000 has been raised. These texts will give us training tools as good as those available in any American industry. They will be especially valuable in training management for it is PIA's conviction that we cannot have efficient workers and an efficient, profitable industry offering steady employment unless we have efficient managers.

Those of us who are interested in printing education should encourage not only the ones who will become journeymen but also those who may become managers. Our industry is comprised of many small businesses in which management must be well grounded along many lines and not merely skilled in one branch. Printing managers are required to understand production and production control, costs and accounting, purchasing, employee relations, selling and estimating. In most industries the possession of one of these skills would be sufficient, but success in the operation of the printing industry's small plants requires at least a working knowledge of all of them.

Interest in Education Strikes Deeply

Our interest in education goes far beyond printing education. We recognize that our sales and prosperity are related to the nation's educational and cultural levels. Without education and cultural growth there would be no need for the vast amount of communication upon which our industry is based.

The Book Manufacturers Institute's splendid study of book reading habits is only part of the evidence that as educational levels and standards rise, the sale of printed matter increases. A high proportion of college graduates are regular buyers of books. A smaller proportion of high school graduates buy them, and a very small proportion of grade school graduates buy them.

Fortunately we see heartening evidence that the nation is being aroused to the needs of our educational system. The GI Bill of Rights increases attendance at our universities and helps to educate a group of men who might not otherwise have had an opportunity for a higher education. College enrollment is today at an all time peak. The demand for Federal aid to education is evidence that the people of this nation recognize that an educated nation will be a more prosperous and successful nation.

We are proud of our schools and determined that they should become even more useful in training our youth. As printers with an historical devotion to education, we might well take the occasion of Printing Education Week to rededicate ourselves to this great cause.

Payne & Craig Appointed

THE appointment of Payne and Craig Corp. as exclusive national sales distributors for the Craig Dri-Spray designed by the Craig Corporation has been announced jointly by Ernest Payne and Herbert Cole respective presidents of Payne & Craig Corp. and the Craig Corp. A nation-wide network of sales distribution is being established in all principal cities, and a national advertising, sales promotion and public relations campaign is being formulated. To direct these activities, Payne and Craig has appointed O. K. Eden as Sales Promotion Manager and retained the services of Herbert Kaufman as consultant for advertising and public relations.

Dunwoody Brochure

A rather informative brochure has been published by The William Hood Dunwoody Industrial Institute, Minneapolis 3, Minn. It consists of 32 pages and cover and is really a pictorial presentation of the facilities afforded by the Institute in training young people in a number of the industrial and mechanical arts. Day courses at present consist of air conditioning, automobile, baking building construction, electrical, general mechanics, machine, mechanical drafting, printing and offset, power, radio and electronics, sheet metal, welding, and highway, railroad and municipal construction. In addition, a number of general subjects may be taken.

More than 4000 students a year have trained at Dunwoody since its founding.

In the printing department, training in the fundamentals of hand and machine composition, hand fed and automatic presswork, linotype, offset camera, layout, platemaking and offset presswork is the objective.

Infrared Dryer Applied to Web Offset Press

ONE of the newer applications of Doyle Infrared Sheet Drying equipment was made recently in the plant of the Haynes Lithograph Co., Silver Spring, Md. The equipment on which the two-side-of-the-sheet drier has been installed is an ATF-Webendorfer 35 in. Web Offset Press. Speed of the web is 400 f.p.m. through the press which prints two sides of the 35 in. paper simultaneously. The cutoff is 22½ in.

As will be seen in the accompanying illustrations, this particular installation consists of two Doyle 36 in. drying units mounted above the offset-impression cylinders. The drier units, when the press is in operation are positioned within a few inches of each side of the web. When the press is stopped, automatic control switches tied in with the press control switch line, shut off the power to the drier units. With this arrangement it is also possible to adjust the drier at variable distances from the paper web to suit various purposes such as changes in paper stock, kinds of ink and other factors.

As soon as the press is stopped, a pressman turns the hand wheel (seen at upper right in the picture) to pull the drier units away from the paper web. This prevents scorching of the web by residual heat in the unit coils. When separated, each unit is approx. 18 in. away from the paper web. When the press is set in motion, the drier units are moved back again to the proper distance from the web by means of the hand wheel.

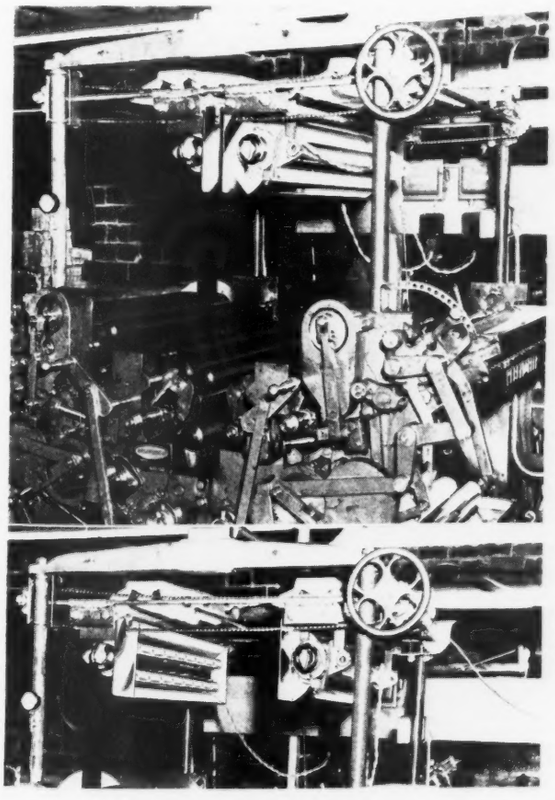
At the present time, Haynes Lithograph Co. is using standard offset inks. At sometime in the future, however, it is expected that the firm will experiment with special heat-set inks to further improve rapid drying qualities.

It is claimed that with a rapidly moving web there is a cushion of air lying close to the paper surface. With the Doyle Infrared Driers it is said the heat rays penetrate through this cushion to effectively dry the ink.

Announcement will be made soon about the device which will automatically prevent scorching of the web by residual heat in the units when the press is stopped and again automatically position them for effective drying duty when the press is started again. Doyle engineers state this will enable users to obtain maximum efficiency by operating the heat coils very close to the web.

Each of the units consists of 16 heating coils mounted endwise in a reflecting shield having 36 in. of effective drying radius. Each unit is rated at 6¾ k.w. and the output is 18,000 B.T.U. Surface operating temperature of each coil in each unit is 1230 deg. F.

Further information about the Doyle Web Offset Press Infrared Driers may be obtained direct from The J. E. Doyle Co., or *Printing Equipment Engineer* will be glad to forward your request.



View of Webendorfer Web Offset Press in plant of the Haynes Lithograph Co., Silver Spring, Md., equipped with Doyle Web Offset Infrared Duplex Drying Units. To explain this particular installation, the press prints each side of the paper web simultaneously. The drier units in this picture are in closed position just as though the paper web were passing vertically between them. After being printed, the web is directed vertically above the printing units and passes between the drier units mounted in the framework above the printing units. Driers are positioned within a few inches from each side of the web. Current is turned on and off automatically when the press is started or stopped. To prevent scorching of the web from residual heat in the coils, the pressman turns the handwheel at upper right to pull the units approx. 18 in. away from the web.

In the lower picture the units are shown in separated position. The units were retracted from the vertical web by the handwheel at upper right through a sprocket and chain arrangement. The paper web runs vertically from the two printing units at bottom to the roller at top of the framework before being directed to folder, rewind, another printing unit or perhaps to a fabricating unit.

BOOKS

RECEIVED

Plate Troubles in Offset

CONTINUING its broad overall coverage of research and technical program, the Lithographic Technical Foundation has published 62 page paper bound booklet entitled *Plate Troubles in Offset-Lithography*. It is stated by the Foundation that books devoted to *troubles* are among the most popular on its list of publications. *Press Troubles* and *Paper Troubles* have had double the distribution of any other comparable publication. This has prompted LTF to add a new member to the trouble family and it concerns plates.

Plate Troubles (4¼ in. by 6⅜ in.) deals with common troubles together with their causes and remedies under the following major headings:

Failure of Desensitized Areas
Scum, Dirt, Greasiness, Old Work Fill up, Thickening, Tinting, Etc.
Failure of Image Areas
Walk - Off, Blindness, Sharpening Granular Halftones and Failure to Roll up.
Halftone Dots Too Large
Thick, Heavy or Full Halftones Images too Strong
Halftone Dots Too Small
Light, Weak, or Sharp Images
Over or Under Exposure
Difficult Development
Plate Develops Too Easily
Coatings Too Thick or Too Thin
Images Not Uniform
Streaks on Plate
Plates Stretch
Misfit between Plates
Oxidation

Under Contents are listed 86 items; from the reappearance of old work to gum streaks. Each of these items as well as the troubles listed above are so numbered that they can be readily located in the book.

This booklet has been published by the Lithographic Technical Foundation for the benefit of its subscribing and supporting members. Foundation's address is 131 East 39th St., New York 16, N. Y.

Public Printing in Peace and War

ONE of the most interesting documents published during the post-war period, and written as the result of managing a printing plant during the war, is that entitled *Public Printing in Peace and War*. The book was prepared by Hon. A. E. Giegengack at the request of the President who directed Executive Departments of the Government prepare an administrative history of their operations during the war. The idea is that these administrative histories

Composing Machine Data Sheet

PRINTING EQUIPMENT ENGINEER arises to ask its composing machinist readers: Do you maintain a composing machine data sheet? If not, or if you are not satisfied with the data you do keep about the machines under your care, perhaps you will be interested in the data sheet shown in the accompanying reproduction.

The loose leaf sheet shown on the opposite page was devised and has been used for some time by H. George Gilbertson, Chief Machinist, of the Flint (Mich.) *Journal*. The utility of the data sheet should be obvious. Through it, Mr. Gilbertson can answer any question that might be asked by the superintendent, the auditing department, or by any one else having need of such information as can be obtained from the data recorded on each sheet. Usually, the auditing department of a firm records the make, model number and perhaps extras which have been applied at the time of purchase, together with extra magazines and fonts which may or may not be used on a particular machine. As time passes, the superintendent may wish to modify the equipment on two or more machines in order to facilitate production flow in the plant. Unless some record is kept of the original equipment, arguments may arise from time to time. Even the machinist himself may want to know about the date of purchase of the machine or certain supplemental parts such as Mohr Lino-Saws, magazines, matrix fonts, font layouts, type of magazine, etc. Another important item in the case of the machinist is that such a blank properly filled out is of great help in writing orders for replacement parts and/or supplies, such as motor pinions, pot heating elements, pot control parts, matrices and the innumerable parts needing periodic replacement, and with which it is necessary to associate the machine number and model.

In Mr. Gilbertson's data sheet it will be noticed that space is provided for matrix data on one machine only. In the case of machines equipped with extra matrix fonts, complete data is kept on other loose leaf sheets in the binder.

Date of machine manufacture can be obtained from the records carried by sales representatives.

Mr. Gilbertson states it is an easy matter to make out a new sheet in case of major change of equipment on any machine, only 10 or 15 min. being required. The new sheet is then inserted in the binder and the old one is destroyed.

This particular form is printed on 16 lb. white bond. 8½ in. by 11 in., punched for binder.

serve as guides in possible future emergencies.

After reading the book, one is struck with the accomplishments of GPO particularly in view of the fact that the GPO was not granted a rating nor was it considered or classified as a critical and essential service to the war. Yet, the demands made upon the GPO for printed matter for essential services to help along the successful pursuit of the war make it appear that that large printing plant should have been given a 100% essential rating. In view of the experiences and difficulties encountered, the Public Printer, in his Letter of Transmittal to the President, states "There stands out clearly and with absolute certainty the fact that if this country is ever again confronted with an emergency as serious as World War II, printing must be considered and classified as a critical and essential service."

In the 1940 fiscal year, the dollar volume of GPO's output was in excess of $20 million. In 1941, it rose to over $28 million. Total personnel jumped from 6059 to 7313. Even with increased plant capacity, GPO could not meet the suddenly increased demands for printing. The Public Printer relates that GPO succeeded in absorbing 80% of the additional orders. The remaining 20% was procured on contract from commercial printers at a cost of $1,798,962.74.

What was done to refine interplant handling procedures to take care of the increased printing volume is discussed. Reorganizing the plant personnel, creating new departments and recommendations for better handling of emergency printing are also discussed.

Mr. Giegengack states, it would be difficult to give the Division of Commercial Planning more credit than is its due for the successful handling of more than $50 million worth of printing purchased yearly during the war.

The chapter on Relations with Employees is extremely interesting in view of the emergency conditions under which a large plant operated.

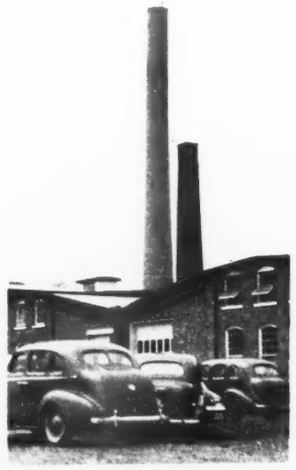
The GPO, just like other private commercial plants was afflicted with materials and equipment shortages. How these were overcome through inventive ingenuity are related. Some of the problems were chemical, some mechanical and some were related to production scheduling and administration.

One of the major problems, strange as it may seem in the case of GPO, was that of paper. Since the war, the situation has become even more acute, so much so that consideration is now being given to the establishment of Government paper mills because requirements for general Government use are being met only with great difficulty. He cited the recommendation of the Chairman of the Congressional Joint Committee on Printing who some time ago advised the paper industry that unless its cooperation is improved he would recommend to the Congress the establishment of Government-owned sources of paper. "If this becomes necessary," he observes, "it will mean larger responsibilities for the Office but at the same time it will guarantee us the paper needed to carry out designated functions."

Paper-bound copies of *Public Printing in Peace and War*, 156 pages, 5¾ in. by 9 in., are obtainable from the Superintendent of Documents, Washington 25, D. C., at 45c per copy.

Flexible Hose Attachment

THE Justrite Mfg. Co. has announced the introduction of a Flexible Hose Attachment for Justrite Safety Cans. This new attachment may be applied to all Justrite Safety Cans of ½ gallon or larger capacity manufactured since November 1945. It is designed to facilitate the pouring of flammable liquids, lessening the hazard of spilling and dispersing of flammable vapours. As described by the manufacturer, the hose attachment consists of a 9½ in. flexible metal hose, a brass cup, and a removable strainer. A steel bracket holds the unit firmly attached to the can. When attached, the hose is flexible enough to be turned to any position, but is also rigid enough to remain in that position. It is especially adapted for use in hard-to-reach spots.



WOOD EXPANDS

There is considerable difference between the two smoke stacks shown in the accompanying illustration. The larger of the two brick stacks is a new one and is twice as large as its predecessor at the Wood Flong Mill in Hoosick Falls, New York.

Wood found it necessary recently to expand its manufacturing facilities. The program of expansion involved provision for generating additional power to handle the new equipment installations. The old stack was incapable of carrying the increased load. Wood is one of the principal stereotype dry mat manufacturers in the United States.

Flint Journal Composing Machine Data

Date of this record | Machine Line No.

Make | Model | Date of Manufacture | Property Inventory No.

Date of Installation | Installed by | Factory Sales No. | Factory Serial No.

Electric Pot Make | Serial No. | Date Installed | Installed by

Style of Pot Control | Type | Cycles | Volts | Amps. | Watts

Heating Element Part Numbers

Electric Motor Make | Ph. | R.P.M. | H.P. | Volts | AC | Cycles

Factory Serial No. | Type | Frame No. | Amperes

Motor Pinion Size and Part No. | Order from

Other motor data

Mohr Lino-Saw Model | Factory Serial No. | Installed by | Date

Mohr Motor Make | Mohr Motor Serial No.

R.P.M. | Phase | Cycles | Amps. | H.P. | Volts | Type

Other Motor Data

Style of Mold Disk | Mold Slots | Condition

Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.
Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.
Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.
Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.
Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.
Mold Style	Mold No.	Capacity	R. H. Liner No.	L. H. Liner No.

Dummy Molds

Other Mold Data

Fonts assigned to this machine:

Font in top magazine	72- or 90-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 2nd magazine	72- or 90-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 3rd magazine	72- or 90-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 4th magazine	72- or 90-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in top side mag.	28- or 34-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 2nd side mag.	28- or 34-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 3rd side mag.	28- or 34-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch
Font in 4th side mag.	28- or 34-channel	Linotype Number	△	Lino. Bridge	Intertype Number	Inter. Notch

Special Characters and Other Changes from Standard Font Schemes

Quadder Make and Number | Installed by | Date of Installation

Other Quadder Data

Metal Feeder Make | Serial No. | Date of Installation

Mold Cooling Motor | Make | Serial No. | Date of Installation

Volts | R.P.M. | Phase | Cycles | Amps. | H.P. | Type

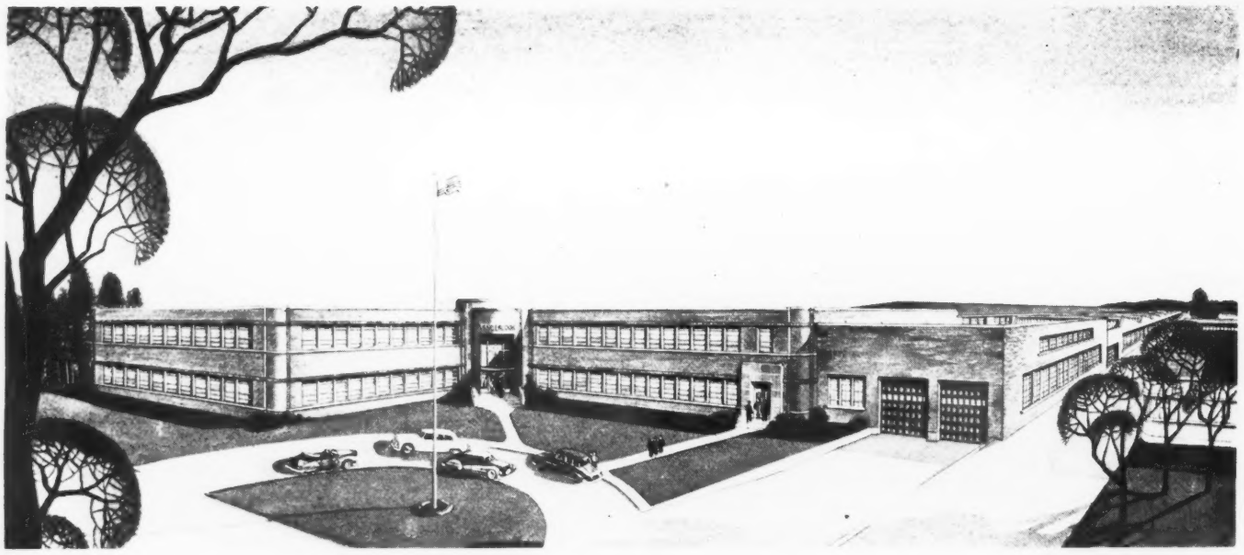
Other Motor Data

Power Shift Motor No. | Model | Gear Speed | Gear Ratio | R.P.M.

H.P. | Volts | AC | Cyc. | Amp. | Ph. | Time Rating | Temp. Rise

Power Shift Magnetic Switch

Other Data Not Listed Above



CONSTRUCTION of a new Vandercook plant in Chicago is expected to begin early next spring. The building will be ready for occupancy in the fall of 1948. One of the principal features of the new plant will be the Printing Equipment Laboratory which will be devoted to the development of time and labor saving Vandercook Pre-Press Equipment. The Laboratory will be equipped with letterpress and offset printing presses of various makes to aid in the development of practical methods for reducing makeready time.

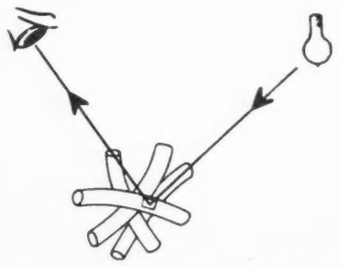
According to E. O. Vandercook, President of Vandercook & Sons, Inc., the new plant will represent an investment in land, building and equipment of over $2-million. It will be modern and streamlined in design, one and two stories high and of brick and steel construction. Located in a north side section of Chicago known as Lincolnwood, it will contain 118,000 sq. ft. of floor space. Travelling cranes will cover the entire assembly area of 80 ft. by 400 ft. The general offices, engineering department, tool room, cafeteria and Printing Equipment Laboratory will be air-conditioned.

"As we see it", said E. O. Vandercook, "our business involves more than the manufacture of Proof Presses. Being the largest manufacturer in our field, we feel obligated to assume the responsibility for research, designing and engineering of such Pre-Press Equipment as will be of most benefit to the Graphic Arts Industry."

EQUIPMENT & SUPPLIES

Polaply Polarizing Method for Lighting

UTILIZING a glare eliminating polarizing medium for general illumination, Polarized Illumination, Inc., supplies flat plastic polarizers approx. 0.020 in. thick which are interposed between two layers of glass in enclosed fluorescent or incandescent lighting fixtures. Polaply is composed of colorless plastic layers entirely free of color distortion, manufacturer states.



Diagrammatic enlarged view of a particle and a ray of ordinary light falling upon it, showing one component of the light reflected from the upper surface of the particle, whereas the balance of the light is refracted into the surface where it is partially absorbed by the pigment layers and then reflected back to the eye.

For general illumination purposes Polaply is held in a horizontal position between two layers of glass. The upper

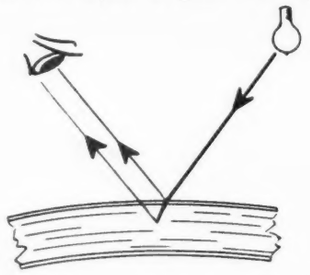


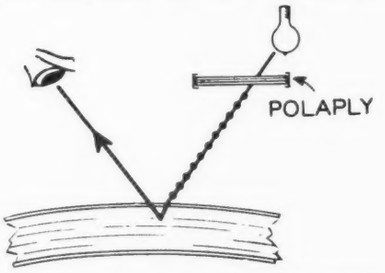
Diagram shows enlargement of microscopic particles on outer surface of material showing the particles arranged in every different direction.

layer of glass between the light source and the Polaply can be transparent or diffusing. The layer of glass beneath Polaply should be transparent and preferably fluted or slightly wavy in texture for appearance. Polaply can be installed in fixtures having completely enclosed reflector and a horizontal lighting surface. The inner reflecting surfaces should be provided with a white diffusing paint or enamel to obtain maximum light output.

Glare, present in illumination from incandescent or fluorescent light sources, is also present in indirect or diffused lighting. Glare may not be apparent because the eye becomes accustomed to the condition, but it always exists to some degree.

Polaply used under a light source, states sponsor, eliminates the glare component, which is surface reflected light. Thus the light striking the object is then refracted entirely, resulting in an increased contrast ratio and improved visibility and color perception.

In the case of metals covered by paint, ink, wood, paper and most other materials, light can be refracted, and therefore by eliminating the reflected component, it is possible to view the subject matter with an increased contrast ratio and better color perception because the visibility is not diluted by the reflected glare component. However, it should be



Diagrammatic enlarged view of a particle and a ray of polarized light on it, showing the entire ray reflected into the surface, where it is partially absorbed by the pigment layers and then reflected back to the eye.

understood that only objects having no refractory surfaces such as shiny metallic substances (like newly cast type matter) are the only exceptions to the effectiveness of polarization. The reason is that light striking such surfaces cannot be refracted because there is no pigment to absorb the light, and therefore a total reflection is obtained from such new metal surfaces.

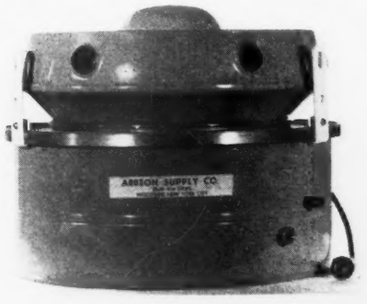
Ordinary objects such as cloth, paper, furniture, rugs, floors, etc., are composed of microscopic particles arranged in every direction. Each particle has an outer surface which is selective to some degree. Some portions of the surface of the particles are always in position to reflect specularly, regardless of the position of the observer.

Radial polarization of Polaply is 360 deg., effective between angles of 20 deg. to 70 deg. of the vertical. Polarization is by transmission and reflection. Manufacturer claims when Polaply is used in a lighting fixture with the proper reflector, the reflux action gives a total transmission of approx. 65% to 70%.

Walton Industrial Humidifier

THE Abbeon Supply Co., distributors for the Walton Laboratories, Inc., announces production of the Walton Industrial Humidifier. This humidifier is claimed to be noiseless in operation, is self-contained and atomizes moisture in a vapor form finer than cigarette smoke.

The lower pan is completely covered and the air is brought in from the bottom through a fiber-glass filter. This equipment is calculated to save 90% of the cleaning time. Equipped with hanging brackets, the unit is installed by hanging from the ceiling and running a water pipe to the unit. No return waterline is needed. Automatic controls for close regulation of percentages of relative humidity are also supplied. Some of the physical details are as follows: (1) Vaporization capacity over 1 gal. per hr. (2) Water supply—no special water is needed as connection is made directly with any water line. (3) Directional domes—360 deg., or 2 directional or single directional domes can be supplied. (4) Ball bearing motors draw less than 100 W. per unit (direct current can be supplied where needed). (5) Made of heavy gauge copper or other non-ferrous material.



View of Walton Industrial Humidifier. Air is brought in humidifier through a fibre glass filter. Equipped with hanger brackets for ceiling suspension.

Walton Laboratories also announces the addition of a filter-protected humidifier to its standard line. Vaporizing better than 1 gal. of water per hour, this unit is protected by a spun glass filter which makes the unit lint and dust proof. Although the unit remains suspended from the ceiling the filter is placed so that it can be removed and rapped out or vacuumed while in place. Replacement filters are available when necessary.

Further information and literature can be obtained from Abbeon Supply Co., direct or *Printing Equipment Engineer* will forward your request.

ATF Perpetual Calendars

AMERICAN Type Founders Sales Corp. announced it again has its Perpetual Calendars available. ATF Perpetual Calendar fonts are offered in Cheltenham bold and bold condensed, 6,8,10,12,18,24,36,48 and 60 pts. Each font includes sufficient figures, date and double-date logotypes, blank squares, type, spaces and brass rules to set any month in 1948 and future years. They eliminate justification and spacing, and open the way for the local printer to compete profitably with the big calendar and specialty houses. All ATF sales offices and representatives have an eight-page booklet on these special fonts available. It offers suggestions for a few of the many treatments to which calendars can be adapted, and demonstrates the variety of type faces with which the Cheltenham fonts can be used. Suggested forms include regulation one-month and yearly, one and 12-page calendars, blotters, memo pads, business cards and novelties with a variety of calendars included. Details of ATF miniature Perpetual Calendar logotypes are also given. This booklet may be obtained by writing to *Printing Equipment Engineer*.

Spiral Binder is Completely Automatic

ONE of the recent developments in the bookbinding industry is the SB6 Spiral Bookbinding Machine by the Equipment Division of the Spiral Binding Co., Inc. This binder is said to be a completely automatic mechanical binder. A high-speed flow of 800 to 1000 books per hour can be maintained with the use of one operator.

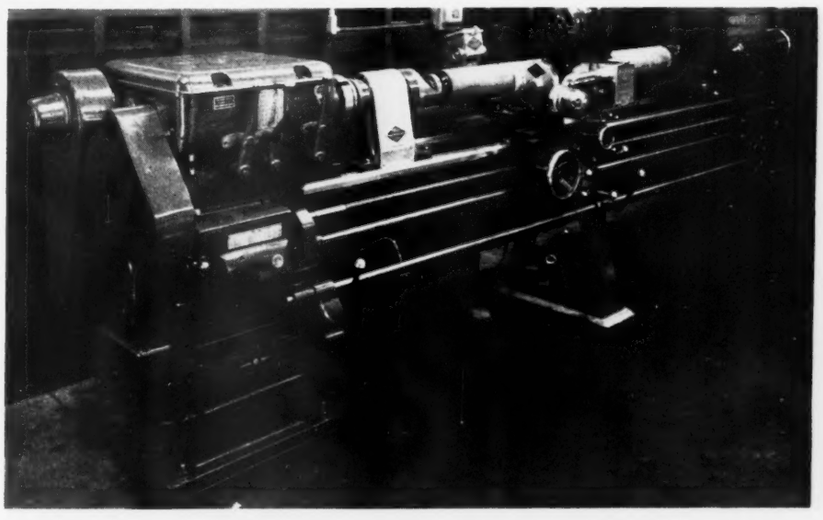
The machine coils the wire, inserts, trims and turns in ends in one binding cycle. It operates with electrical—electronic controls and no special skills are required. Either push-button or pedal operation is available. Imperfect books are rejected before binding. In small runs the setup is quick. Average set-up time is approximately 20 min. The machine handles book lengths from 3 in. to 12½

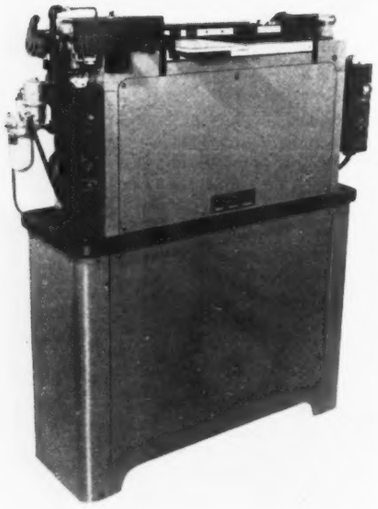
Resumes Manufacture of Roller Grinding Equipment

THE Dust-Less Equipment Co. announces it has completed arrangements for the manufacture of Cecil Rubber Roller Finishing Equipment. The company can supply its Series "LN" Triple duty machines and its Series "J" Special Roller finishing machine.

In accompanying picture is shown one of the Triple Duty Series "LN" lathes recently installed in the plant of the Birmingham (Ala.) *News and Age Herald*. The Triple Duty Lathe outfit consists of an 18 in. by 14 ft. heavy duty motor-driven lathe with Cecil roller grinding and polishing equipment. Bearings mounted in ball or roller bearings. The geared headstock of the lathe operates in an oil bath and all bearings are Timken Tapered bearings with adjustment means to compensate for wear.

One of the Series "J" special roller finishing machines has been shipped to *Truth* and *Sportsman* Ltd., Sydney, Australia, and there is now in the process of manufacture a triple duty lathe outfit for shipment to The Argus South African Newspapers, Ltd., Durban, South Africa.





Completely automatic in operation, Spiral Binding Co. announces production from the Spiral Bookbinding Machine is from 800 to 1000 books per hour. Floor space required is 16 in. by 36 in.

in. It uses Spiral type zinc coated metal wire.

Floor space required is 16 in. by 36 in.; weight is 800 lbs. This machine received the 1947 Products Development Award sponsored by the Electrical Manufacturing Magazine.

Complete specifications and other data can be obtained from the Spiral Binding Co., Inc., or through *Printing Equipment Engineer*.

LeBlond Roll Grinding Lathe Installed

THE Crowell-Collier Publishing Co., Inc., recently added a new 25 in. LeBlond heavy duty roll grinding lathe to its press roll department, according to the R. K. LeBlond Machine Tool Co. The main press roll department at Crowell-Collier, in charge of E. E. Stowe, foreman, and under the direction of Ed Hain, machinery maintenance superintendent, is responsible for maintaining the rubber rollers used on high speed presses. This involves grinding rubber rollers of different sizes and five different types of composition.

The company operates both letterpress and rotogravure presses which print 20,000 impressions per hour, 24 hours daily.

Mr. Stowe's department is said to be the only complete one of its kind maintained by any publisher. It is equipped with a wide variety of special design machine tools for grinding, polishing, and sanding, and has been developed progressively for the last 25 years. The department observes the same standards of accuracy employed in the metal working industry.

The roll grinding machine has a center distance capacity of 120 in., and a swing capacity of 27½ in. over the ways and 13 in. over the slide. It is equipped with a 5 h.p. grinding unit mounted on a special carriage and slide. Rolls are suspended between centers by two steel-body chucks, one each on headstock and tailstock spindles. A special revolving spindle tailstock is used to facilitate rotation of the tailstock chuck.

Kellogg Type-O-Writer

JAMES H. KELLOGG, president of Kellogg Switchboard & Supply Co., has announced that an agreement has been concluded with Hervey Lees of Glendale, Calif., whereby the Kellogg Company will manufacture and sell the Type-O-Writer. The Type-O-Writer has the standard typewriter keyboard and is designed for attaching to the Linotype and Intertype without disturbing the machine keyboard. When the Type-O-Writer is operated the corresponding keys on the typesetting machine are also operated by electric solenoids. The Type-O-Writer keyboard has 45 keys as compared with 90 keys on the Linotype machine.

The Type-O-Writer weighs 25½ lbs. and can be moved from one machine to another. A series of three lights above the keyboard include a white light that indicates when lower case is being set, a green light for caps and a red light for small caps.

View of Kellogg Type-O-Writer now being manufactured by Kellogg Switchboard & Supply Co. Carries standard typewriter keyboard for attachment to Linotypes and Intertypes.

Improved Dri-Spray

Craig Corporation announces its improved Dri-Spray for preventing offsetting, sticking and picking on heavy forms, and multi-color printing on any type of paper, board or foil. Besides the tube portion of the spray, the complete spray unit consists of a panel (11 in. by 32 in.) on which is mounted a dehydrator, powder supply tank, spray tank in which the powder is dispersed in filtered dry air. The weight is approx. 40 lbs. for portability. A supply of completely dry air, without which it is impossible to separate the fine powder particles, is assured. Low air pressure is employed. The high specific gravity of the powder causes it to precipitate and drop onto the sheet as soon as it leaves the spray

Heavy Duty LeBlond Roll Grinding Lathe installed in press roll department of Crowell-Collier Pub. Co., Springfield, O. Special instruments are used for measuring outside diameter of rubber rolls. The operator and E. E. Stowe, foreman, are shown checking a roll.

tube. Practically no trace of the powder, it is claimed, remains on the printed sheet after standing. To assure a supply of dry powder-laden air the air passes through the dehydrator tank at the bottom of the panel. A sight glass at the top of the dehydrator indicates the efficiency of dehydration. With the color changing from blue to pink it is necessary to change the contents, which may be reactivated for re-use by low heating until it again becomes blue. The moisture-free air, which already has passed through a filter to extract any oil that may be in the air line, then enters the spray tank which contains the powder, and a cloud of filtered and dehydrated powder-laden air is created in the dome. Controlled low pressure of 1 to 3 lbs. carries this cloud of powder-laden air to the spray tube where it is precipitated, at a pressure of 1 oz. or less, onto the printed sheet.

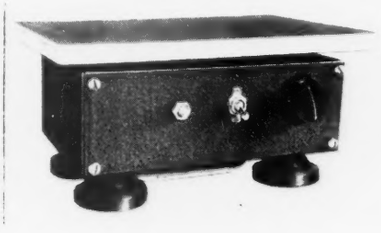
Craig Dri-Spray powder has been approved by the Lithographic Technical Foundation, New York Employing Printers Association, Inc., International Printing Pressmen & Assistants' Union of North America, and Amalgamated Lithographers of America as non-toxic, non-hazardous to personnel.

Under normal printing conditions from 1 to 3 lbs. of air pressure is used, with slightly more pressure required for very heavy forms and carton printing. Manufacturer states the Craig Dri-Spray can be used on all makes, styles, and sizes of letterpress and offset presses, including label, tag, envelope, ticket, decalcomania, and photo-gelatin presses, as well as coating, varnishing, and other special machines. Control is automatic when one unit is used per press. Manual operation is necessary when the unit is used for more than one press at the same time. On any press over 25 in. by 38 in. a separate unit is required. On some work, such as heavy carton printing, high speed rotary presses and metallic stocks, two tubes are needed.

Further information may be obtained by addressing Craig Corporation direct, or you may send your request to *Printing Equipment Engineer*.

Portable Electromagnetic Paper Jogger

A PORTABLE electromagnetic vibrating paper jogger weighing 13 lbs. net and having a deck measuring 7 in. by 10 in., has been announced by Syntron Co. The jogger stands 4½ in. high and is provided with a carrying strap. Built-in variable power control is a feature of this mechanism.



View of Syntron Portable Electromagnetic Paper Jogger. Deck size is 7 in. by 10 in. May be carried around plant by strap provided for that purpose.

It can be carried around the shop for jogging small size paper prior to feeding, cutting or binding. It is available for operation on 110 v., a.c. current. Input at 110 v. is 9 amps. It can be used also in large business offices for aligning quantities of worked invoices for filing and in gathering sales and service manuals. Outside the printing industry, it may be used to completely fill small phials, jars, cartons or cans with bulk materials such as talcum powder, coffee, etc. In dental laboratories it may be used to vibrate molds in the making of dentures. Further information may be secured from *Printing Equipment Engineer*.

Teletypesetter Sales Program

The Teletypesetter Corporation recently has made agency appointments for the sale and distribution of Teletypesetter equipment on the West Coast, in Canada and in foreign countries.

An agency for Canada went to the Toronto Type Foundry Co., Ltd., distributor of printing equipment in the Dominion, with headquarters at 120 Wellington St., West, Toronto. A distributorship for all other foreign countries was awarded to the Westrex Corporation, 111 Eighth Ave., New York 11. Westrex has 35 offices in Europe, South America, and the Far East.

The newly established firm of Morey and Tryon is Teletypesetter agent for sales and distribution on the West Coast. The firm will make its headquarters at Room 447, Pacific Electric Bldg., Los Angeles 14, Calif., and its territory will include the states of California, Washington, Oregon, Nevada, Idaho, and Utah. Walter W. Morey has been associated with Teletypesetter since its inception, and Clyde Tryon is well known in the typographic composition field.

New Intertype Faces

New additions to popular faces by Intertype have recently been cut by Intertype Corporation. These are 12 point Regal No. 2A with Cairo Bold No. 2, 18 and 24 point Cairo Bold Italic, and 30 point Bodoni Italic. These new faces are shown below:

ABCDE abcdefghijkl 12345
ABCDE abcdefghijkl 12345

12 Pt. Regal No. 2A with Cairo Bold No. 2

ABCD abcdefgh 123

18 Pt. Cairo Bold Italic

ABC abcde 123

24 Pt. Cairo Bold Italic

ABC abcd 123

30 Pt. Bodoni Italic

Form New Company

The Walter W. Mezo Co., 848 Daily News Bldg., Chicago 6, Ill., has been formed with Walter W. Mezo and George R. Steele as partners. The firm will deal in used rotary and flatbed web perfecting presses, magazine, rotogravure and offset presses, stereotype and composing room equipment. Also, the firm will act as manufacturers' agent on new equipment offered the newspaper, magazine and allied printing industry. Services of both will be available for appraisals and consultation. Both Messrs. Mezo and Steele formerly were in the employ of the Duplex Printing Press Co., Battle Creek, Mich., which was acquired by Goss Printing Press Co. recently. Mr. Steele had been with Duplex for 22 years and at the time of sale of the company he was general sales manager.

New Goss Installations

THE Midland (Mich.) *News* has completed the installation of a 16-page Goss Standard Speed Unitube press, including stereotype equipment. The new press was erected in a recently constructed addition to the *News'* plant. It replaces a flatbed press. The means for reversing either printing couple is standard equipment and permits unit-to-unit runs for extra color printing without the use of extra color cylinders. It also provides additional color on presses equipped with color cylinders. Other standard equipment includes tension plate lockup and continuous ink feed system. The press is 32 ft. long, about 7 ft. wide, 8 ft. high and is driven by a 40 h.p. motor. Weight, approx. 32 T.

In Kinston, N. C., the *Free Press* has installed a Goss 16-page Unitube press. In addition to a full complement of stereotype equipment, there is included a Goss 45-W mat roller. The new press can produce more than 20,000 papers per hour. While no special color facilities were included in the installation, the press can handle color by reducing its page capacity. The press is so designed that extra color arrangements can be added above any or all unit impression cylinders at any time in the future. Equipment for the press includes tension plate lockup, continuous ink feed and reversible printing couples. The equipment weighs approx. 80,000 lbs. and is driven by a 40 h.p. motor.

Newsprint Handling *in plant of the Buffalo (N. Y.)* Evening News—*Battery-powered trucks handling 1800 lb. rolls without damage in minimum time*

BY measuring the reported circulation figures of daily newspapers serving metropolitan areas in the United States against the figures of their newsprint consumption, material handling engineers have established that, at a conservative estimate, approximately 24 T., or 48 thousand lbs. of newsprint are consumed for every 100 thousand 32 page papers issued. This figure does not include wastage in handling and printing.

Rolls of newsprint, depending upon their size and the weight of the content paper, range in weight from 900 to 1800 lbs., and more. Each roll constitutes a heavy burden the manual handling of which is awkward and is accompanied by physical hazards. These latter increase with the weight and size of the roll and the number of times it must be handled. In addition, movement of newsprint rolls by purely manual means is slow, expensive and time-consuming.

Any device that facilitates the speedy delivery of the daily newspaper to its readers is looked upon with favor by publishers. Edition and delivery times are fixed. Certain editions, in certain amounts, must be at certain points at set times in order to be picked up for transport.

In the manual handling of huge burdens the human element must be considered. A group of men, through purely physical effort, can do so much in a given period of time. To maintain the operation continuously additional manpower must be provided. When mechanical power, capable of continuously doing as good a job as a group of men, can be substituted, it becomes economically unfeasible to continue further expenditure of costly man-power.

When, in addition, further benefits may be derived—such as avoiding expensive construction through the full utilization of hitherto available but unused warehouse or storage area, and the handling of double or triple the amount of material in a single operation in far less time or, again, the speedier movement of material from receipt into process—such substitution of mechanical power for physical effort becomes imperative, if only because of reduction in costs.

One of the many daily newspaper establishments in the United States where through the use of storage battery-powered industrial trucks, manual labor in the handling of newsprint has been reduced to all but the vanishing point, is that of the Buffalo (N. Y.) *Evening News*. Here, some 15 years ago, a 4000 lb. capacity, battery-powered truck, fitted with a rotating-head, roll-handling device was placed in operation. Five years later a second, and similar, truck was installed. Now the *News* is about to still further mechanize its roll-handling operations, increase its warehousing and storage facilities and still further reduce its handling costs, through use of a 3000 lb. capacity, battery-powered fork truck. This will be used to transport and tier tolls of newsprint.

The tiering truck will be able to raise and deposit the huge rolls of paper a distance of some 142 in. above floor level, with the result that from two to two-and-a-half times more existing storage capacity will be made available.

In making their computations which established that 24 T. of newsprint are consumed in printing 100,000 average-sized newspapers, material handling engineers also determined that five times is the average number of times a roll of newsprint is handled in newspaper plants from receipt through its delivery to the press. Therefore, while the basic weight figure per 100 thousand 32 page newspapers is 24 T., in reality a total of 120 T., or 240 thousand lbs., has to be lifted, transported and deposited.

These five handling operations include: (1) Removing rolls of newsprint from freight cars and moving them (a) into adjacent warehouse, as is the case with the Buffalo *Evening News*, or (b) placing the rolls on highway trucks for movement to the warehouse area within the printing establishment; (2) Out of highway trucks into printing plants; (3) Into storage area within the plant; (4) Out of storage to entrance to press-room or direct to presses; (5) Loading onto presses.

Because of the quantities of paper consumed by the Buffalo *Evening News* in publication of its various daily editions (circulation at the time the *News's* plant was visited in mid-September, was approximately 270 thousand copies a day) and the limited area available within the plant, it is not possible to maintain more than a three-and-a-half days' supply of newsprint in the third and fourth floor storage areas. Therefore use is made of space at a warehouse owned by the Lehigh Valley Railroad. Here some three to four incoming shipments of newsprint are unloaded every day. A crew of three men and one of the special roll-handling battery-powered trucks take approximately 90 minutes to unload and warehouse a box-car containing some 60,000 lbs. of paper. Under existing methods five cars of newsprint is warehoused at the Lehigh Valley building.

Rolls are moved in to the area and stored vertically or, by use of the rotating head of the roll-handling attachment on the battery-powered truck, are placed horizontally. When the new fork truck is placed in operation additional storage capacity will be made available through the ability of the new truck to raise rolls and tier them four-high, in horizontal piles.

In movement of the rolls from the Lehigh Valley warehouse to the *News's* plant, use is made of highway trucks which are loaded by means of the battery-powered trucks. At destination the rolls are rolled by gravity from the highway truck at the *News* plant to a building elevator and there raised to the third or fourth floors. The truck also is taken by elevator to the storage floors and places the rolls vertically. Elapsed time for this handling of a car-load of paper is approximately the same as at the Lehigh Valley warehouse.

It has been estimated that, in the handling of roll stock at the *News* warehouse and plant, one man with the battery-powered truck performs operations that formerly required the services of from four to five men, yet does them in less than half the time and with elimination of damage to the edges of the rolls and resultant waste of paper.

Luck and Fast Work

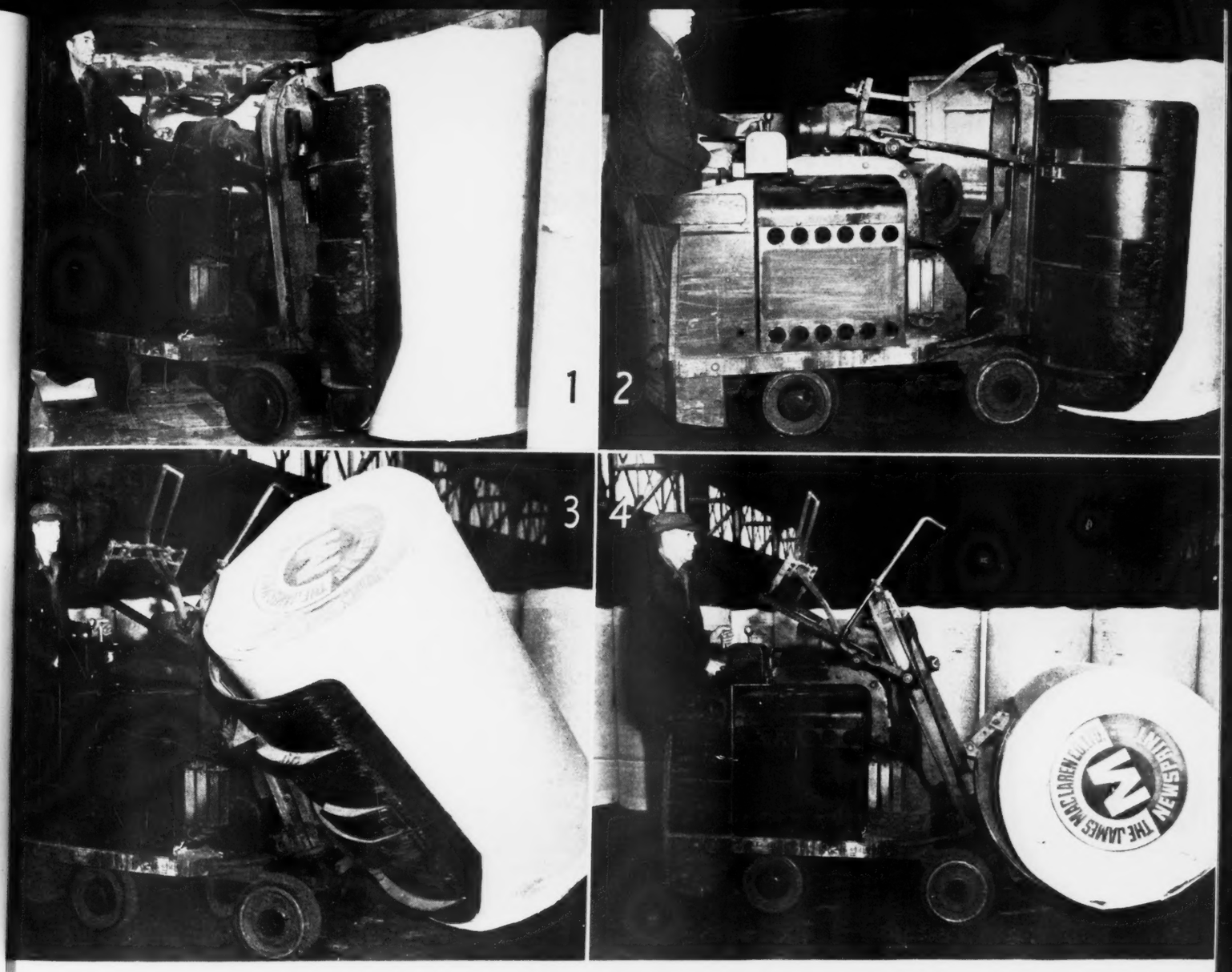
Gets Stereo Equipment

MOST any printer will tell you that if he gets a new stereotype pot installed and operating within 90 days of the time he orders it he is a very lucky fellow, so consider the luck of M. M. Oppegard of the Grand Forks (N.D.) *Herald*. The crucible of the coal-stoked *Herald* stereotype pot cracked one Thursday late in November. It looked as though the *Herald* might miss several editions, perhaps many, for there was little hope that the crack would not get larger. Oppegard phoned Archie Soyde of Richardson-Soyde, Minneapolis printers' supply house, and asked what Archie thought of a welding job. Archie advised against it and said he would see what he could do.

Soyde phoned Al Rosene, Mechanical Superintendent for Northwest Publications, St. Paul, which operates the St. Paul *Dispatch-Pioneer Press* and several other newspapers in the northwest, including the *Herald*. Rosene had a brand new Kemp 3½ T. gas-fired stereo unit which had not yet been installed. It was shipped to Grand Forks along with the motor carburetor pulled out of the *Dispatch* line. Rosene and Jimmy Richardson, Soyde's partner left for Grand Forks to make the installation. They got in a little work Saturday night, buckled down in earnest Sunday at 4 a.m. By 7 p.m. Sunday night, the new Kemp equipment was operating—a 90-day job accomplished in three days.

Graphic Arts Conference

THE Second Annual Convention of the Southwestern Graphic Arts Conference will be held in Oklahoma City, Okla. at the Skirvin Tower Hotel on April 8, 9 and 10. National speakers will discuss subjects of general interest and one day will be devoted entirely to Craftsmen and their problems. Three speakers will conduct a Labor Relations Clinic—with an open forum at the end of the period.



How Newsprint Rolls are Handled in Plant of the Buffalo (N.Y.) *Evening News*—*1.*** Shown in the picture above is one of two storage battery-powered industrial trucks used by the Buffalo (N. Y.) *Evening News* to handle rolls of newsprint, from receipt through storage to delivery to its presses. Equipped with a special rotating head, roll-handling device, the truck operates in box-cars (as shown) removing the 1800 lb. rolls and transportating them into storage area. A semi-circular steel apron forms a cradle for the roll which is supported at the bottom by a bevel-edged plate, or toe. This latter moves under the vertical roll when the truck is moved forward. Load is lifted from the floor by back-tilting the vertical column. Truck then moves from car to warehouse storage area.

2. Inside warehouse newsprint roll is stored in vertical position by storage battery-powered truck equipped with special rotating-head, roll-carrying apron. Forward tilt of column deposits edge of roll on flooring without damage to roll's edge. Steel "finger", inserted in roll's core at top, will be withdrawn by truck's operator and truck backed away, leaving roll positioned in desired spot.

3. With steel "finger" released from core of roll of newsprint, operator of storage battery-powered industrial truck, rotates cradle at fore end of truck to permit depositing roll in horizontal storage. Operator can rotate load over arc of 90 deg., from vertical to horizontal, or reverse, whether truck is stationary or in motion. Use of rotating cradle permits passage through narrow aisles or doorways, and also placement of roll is whatever position is desired.

4. To deposit roll of newsprint, operator of this storage battery-powered industrial truck, inclines column, fitted with special roll-carrying cradle, to forward position. Roll then moves off cradle onto floor. To load cradle, column is tilted forward, forward end of cradle is pushed under the roll and column is back-tilted. All pictures were taken at warehouse of the Buffalo (N. Y.) *Evening News*, which has made use of battery-powered trucks to handle its rolls of newsprint for past 15 years.

ATF To Sell Certain Vandercook Presses

American Type Founders Sales Corp., is now exclusive representative in the United States for certain Vandercook Proof Presses, according to an announcement by E. O. Vandercook, President, Vandercook & Sons, Inc. ATF is sole selling agent for eight of Vandercook's Hand Proof Presses—which range from the smallest machine made by Vandercook to a Full Page Proof Press suitable for newspapers and general use. These include the following models: No. 0, No. 1, No. 2, No. 3, No. 05, No. 14, No. 325G Hand and the No. 325A Hand Proof Presses.

The remaining 13 letterpress proof presses in the Vandercook line, as well as the Hacker Gauges and a new Block Leveller soon to be announced, will continue to be sold exclusively in the United States by Vandercook's own sales force. Also to be handled by the Vandercook sales staff is a new line of Offset Proof Presses, the first of which is now in production.

Vandercook's sales organization functions out of offices in Chicago, New York, N. Y., and Los Angeles. Most of the Vandercook Proof Presses, including those sold exclusively by ATF, are on display at the Vandercook Showroom, 630 So. Dearborn St., Chicago.

Job Board *Presents Complete Production Picture Progress of each job going through McCullers Press plant indicated—Foremen move tickets twice daily —Need for production conferences or detective work eliminated*

By DR. R. R. VOORHEES

IF a commercial printing plant does any amount of work at all it is most important that the progress of every job through the plant must be instantly available at all times so that delivery dates can be maintained. For a shop like The McCullers Press, Dallas, Tex., where there are at least 150 jobs going through all the time, this is most important. In order to keep track of all jobs and maintain promised delivery dates this printing and lithographing firm uses a job board combined with special tickets and a job envelope that instantly furnishes the front office with the progress of every job in work in the shop.

The backbone of this system is a job board located in the business office. There are eight classifications running down the left hand side of this board as follows starting from the top of the board: *Art and Composition, Camera, Make-up, Proofs—Hold, Plates, Press* (subclassified *Mul, Web, Lsn* and *Lss*), *Bindery*, and *Delivery*. In the subclassifications under *Press Mul* denotes Multilith, *Lsn* indicates a small Harris Press, and *Lss* stands for a large Harris Press. *Web* is self explanatory.

It will be noted that according to this job board there are four classes of presses, counting the small and the large Harris presses as two classes. In order to better keep track of the progress of the jobs through the plant this firm uses in connection with this job board, small tickets measuring about $2\frac{3}{4}$ in. sq. These tickets are made up of four colors. Each color indicates the kind of press on which the job is to be run. The blue ticket is for the small Harris Press, the orange ticket for the Web Press, the Pink ticket for the large Harris Press, and the White ticket for the Multilith Press.

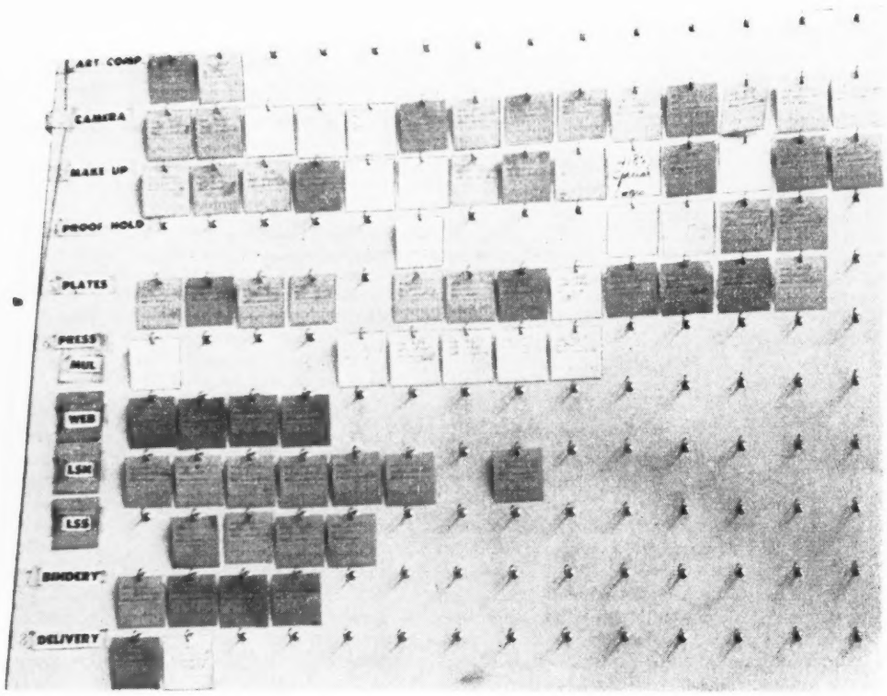
All of these tickets are printed identically. At the top there is space for the entrance of the Job Number, below that the name of the customer, and below that the date the order was received with the promised delivery date immediately following on the same line. The lower portion of these tickets bears eight square, two rows four to a row and numbered from 1 to 8. These eight $3\frac{1}{2}$ pica correspond to the eight classifications on the job board.

The last remaining link in this job progress system is a job ticket or envelope such as is used in every well regulated shop. The envelope used in this shop is different in that at the extreme top of the envelope there are eight squares running horizontally across the top of the envelope in one row and numbered from one to eight. These eight squares correspond to the eight classifications on the job board and the eight squares on the tickets just described.

When a job comes in to this firm, the business office makes out the usual job ticket or envelope in the usual way, filling in such details as is generally done. In addition, square No. 1 at the top of the envelope is filled in with the date when the job first goes "in the works." In square No. 8 there is filled in the promised delivery date. Then squares 2 to 7 inclusive are filled in with estimated dates at which times that particular job should get to each of the successive departments in order to make the promised delivery date. Thus when the job envelope goes to the foreman of the first depart that is to handle the job he not only has the date when he gets the job before him (both on the envelope and on the little square ticket), but he also has on the job envelope an estimated notation when that job should get to the next department if it is to go through the plant and make the promised delivery date.

Opposite each of the eight classifications on the job board, including the sub classifications under Press, there runs horizontally from the left to the right a series of 14 screw hooks spaced sufficiently apart so that the little square tickets, each of which has a hole punched in the top center, can be slipped on the hook. Opposite classification Press there are no hooks because this is subclassified with four separate divisions each of which has its own row of hooks.

In the office, one of the little square tickets is also made out at the same time



Production progress of each job going through McCullers Press in Dallas, Tex., is tabbed twice a day by the foreman of the mechanical departments who shift ahead the individual tickets, each representing different production operations of each job. There are approximately 150 jobs going through the plant most of the time.

Integral part of exceedingly flexible production control system in plant of The McCullers Press, Dallas, Tex., is the Job Ticket shown here. The ticket is about 2¾ in. by 2¾ in. and is printed on bristol board. Each job has its own specific ticket, and is hung on hooks on a common board located in the business office. Color of ticket indicates just which press the job is being printed on. Twice a day, the foremen of each mechanical department come into the office and move the tickets for each job ahead to the next hook or hooks, according to the department to which each job has progressed. In this way, the business office, as well as the foremen can be kept informed about the state of completion of every individual job in the plant. In this way, corrections in work flow to facilitate promised delivery dates can be made.

the job envelope is made out. After filling in the spaces in the upper half of the ticket, the date on which the job goes to the first department is entered in the proper square, generally square No. 1. This ticket, the color of which indicates the press on which the job is to be run, is then put on a hook opposite whatever department the job starts in which is generally classification No. 1.

Twice a day, the first thing every morning and the last thing in the late afternoon just before quitting time, the foreman of each department comes in to the business office and moves forward such little square tickets that need moving. Every job that has been finished in one department has its ticket moved to the next department. By doing this twice a day, management and sales can look at the job board and tell instantly just where every job is. And since every little square ticket has the promised delivery date, it is an easy matter to see if the job is moving along sufficiently fast to make the promised delivery date.

In case there are more than 14 jobs in work in any one department, which would mean that there wouldn't be hooks enough for all of the little square tickets, then several tickets are put on the same hook. In short, the hooks in any one horizontal line or row indicate all the jobs that are in work in that particular department.

When the job has progressed sufficiently to reach the Press department which is subclassified under four heads, the little square ticket is hung on one of the hooks in the line opposite the kind of press on which the job is to be run. In order to facilitate this, the subclassifications under Press are indicated by lettering that has been pasted on one of the little square tickets of the proper color. Thus the foreman in advancing the tickets to the press row has only to compare the color of the ticket he is moving with the four colored tickets under Press and put his on a hook opposite the ticket of the same color. The various colors which indicate the kind of press on which the job is to be run have no meaning in the other seven classifications.

As each of the little square tickets covering some job in production is moved from one row to the row below, the foreman enters in the proper square on the ticket the date on which the ticket was moved on the job board to the next department.

Besides the four different colored tickets that have been described, there is one other little square ticket, exactly like the rest but of a pale green color. This is used for jobs requiring no presswork such as platemaking, composition, binding, perforating and so on. With these jobs that require no presswork the routine is the same. The little square ticket is hung on a hook in whatever row the job starts in and moved along in the same way up to the bottom or last row, namely Delivery. Of course the little light green tickets may skip along as for instance a composition job would start with classification 1 on the job board and then jump to classification 3, after which it would be jumped down to classification 8 or delivery.

This system has greatly facilitated the speeding up of jobs through the various departments and in maintaining the promised delivery dates, all with the minimum of work.

Special Summer Courses

A special program of printing courses will be offered during the summer of 1948 by the Carnegie Institute of Technology Printing Dept., Bruce Buttles, head of the department, announced. The six-week session, which will include subjects for beginners as well as experienced craftsmen in the industry, will mark the return of summer graphic arts courses at Carnegie. With registration set for July 2 and 3, the session will run from July 6 through August 14. A tentative listing of courses includes typography, machine composition, layout and design, plant management, estimating and cost finding, press work, and photo-lithography.

New Plant for Huber—Construction of the J. M. Huber Corp's. new printing ink plant in McCook, Ill., has officially begun with ground being broken for the first of several buildings to be erected on a 16 acre site at First Ave. and Route 66. The first building, to contain 40,000 sq. ft., is the beginning of the $500 thousand project, and marks the extension of Huber's ink manufacturing operations in the Chicago area. On completion of the project in February 1948, it is expected that the plant will produce upwards of 25 million lbs. of printing ink annually.

In the news ink section of the new plant, the Huber Corporation will utilize its pelletized carbon black process. This process employs carbon black, bulk handled, in pellet form for printing inks instead of the uncompressed form in bags. The Huber Corporation will also manufacture magazine, container, commercial and rotogravure inks in the McCook plant.

Specialty Stereotyping

Discussion about equipment and techniques employed for obtaining quality plates — Use precision controls and methods

By R. P. WILLARD, Development Engineer, Moore Business Forms, Inc., Elmira, New York

THE purpose of this article is to discuss briefly certain aspects of stereotyping which are more or less problems of the specialty printer. It is not our intention to present the entire process in great detail. Many of the minor steps of the process are omitted in this paper, as most printers are familiar with them.

The word *stereotype* is derived from two Greek words *stereo* meaning rigid, and *typos* meaning letter or character. It was coined by Firmin Didot of Paris in 1795, and was intended to distinguish a solid metal plate, in which all of the material is in one piece, from a chase full of loose type.

The advantages of a solid plate were obvious to the earliest printers. Many attempts were made beginning shortly after Gutenberg devised the system of moveable types, to perfect a method for preparing the plate as a single, solid piece of metal.

It is not within the scope of this article to describe the past development of the process in any detail. But it is interesting to note that as long ago as 1690 the principles of a process similar to wet mat stereotyping were familiar to the printers of Central Europe.

Following many developments in the casting of stereotype plates in plaster of Paris molds, the wet mat was perfected by Claude Genoux, a French printer, in 1829. The process as devised by him is still used in some shops at the present time. However, present day usage is largely confined to the dry mat, invented in England by George Eastwood in 1893.

Much credit for the original acceptance of the dry mat into this country must be given to Henry A. Wise Wood who secured the agency for the Padipp mat made in Germany and devised the Wood stereotype machinery for use with it.

Two Classes of Stereotyping

In considering the application of stereotypes, we may divide the users into two classes: Those who are printing newspapers with full size cylinders and those who are utilizing this process for other types of printing. We make this division, because as we proceed with our discussion, we will find that the problems met in newspaper work are often quite different from those encountered by other users of this process.

It is not the purpose of this article to discuss newspaper stereotyping. The production of newspaper plates is a well standardized operation, and the technique is available to anyone who wishes to visit a local newspaper. In this article we propose to consider some of the problems of the specialty printer using direct pressure molding and casting equipment other than newspaper plate casters.

Direct Pressure Molding for Commercial Work

Although the majority of newspapers use the roller machine for molding their mats, direct pressure is generally in favor among other stereotypers. There are certain advantages in the use of direct pressure machines which are not possessed by the roller machines. In the roller method, the molding pressure is not exerted directly down upon the type and rule matter but there is a considerable amount of side pressure as the mat and form progress under the roller. This side pressure often causes considerable difficulty when molding work with isolated fine rules or other material, and results in a relatively short life of the form. If a number of mats are desired it is possible to obtain them more easily from a direct pressure machine. Another advantage of direct pressure is that the mat can be dried in the press on the form. For many classes of work requiring close register of colors or precise control of shrinkage, it is necessary to dry the mat on the form to secure the desired results.

The direct pressure method was developed to a large extent in Europe where it was held in considerable favor. Many of the techniques used in this country were imported by craftsmen who received their training in Europe.

Although direct pressure molding of stereotype mats is becoming more common in the newspaper field, unheated presses (with the exception of the upper platen) are used for this purpose, and drying is not accomplished in the press. Where the mat is to be dried in the press, it is necessary that the machine be equipped with some means of heating the lower platen or bed upon which the form rests.

Steam vs. Electrical Heating

The heating of the lower platen or bed in a direct pressure molding machine is accomplished either electrically or through the use of steam. The use of steam is generally more satisfactory from the standpoint of results obtained, especially if the same press is to be used for the molding of rubber plates. Steam can be held to a constant and precise pressure and temperature variations in the platen of the press are minimized. Although the accessory apparatus required for an electrically heated press is quite simple this type has several disadvantages. Unless variable external resistors are placed in series with the heating elements, there is a continual variation in platen temperature as the thermostats switch on and off. The heating elements being concentrated areas at high temperature do not always provide an even temperature over the entire surface of the platen. In addition, if the heating elements are connected in parallel there is always the hazard that one of the elements will burn out without the knowledge of the operator, and not be discovered until a search is made for the cause of unsatisfactory mats or rubber plates.

There are, of course, numerous difficulties which may be encountered with steam heated presses, but once the system is placed in correct operation it is quite reliable.

Mat Moisture Content

Mats as used by newspaper stereotypers contain a relatively small percentage of moisture as compared with those required by specialty printers who dry them in the press. Many specialty printers soak the mats until they are saturated with water and the moisture content may be as much as 60% of the weight of the wet mat. Mats of this high moisture content are used because it has been found that they become much softer and more flexible as the percentage of contained water is increased. For the reason outlined below, very soft mats are required when drying on the form if the life of the form is to be of reasonable length.

In order to dry the mat within a reasonable length of time, the lower platen or bed of the press is maintained at a temperature of about 300 deg. F. This degree of heat seems to reduce the

Conference Dates *(with organization names and principal officers)*

American Photo-Engravers Association — Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference — William Penn Hotel, Pittsburgh, Pa., July 19, 20 and 21, 1948. J. L. Stackhouse, Chairman, Easton (Pa.) *Express;* Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference — Pantlind Hotel, Grand Rapids, Mich., Jan 18, 19 and 20 President Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Secretary Al. P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

Illinois Newspaper Mechanical Conference—President, Earl Anderson, Supt., Rockford Consolidated Newspapers, Rockford, Ill. Secretary, Howard Colton, *Daily Pantagraph,* Bloomington, Ill.

International Association of Printing House Craftsmen —Hotel Cleveland, Cleveland, August 8, 9, 10, 11, 1948. President, A. Gordon Ruiter, Supt., Forbes Lithograph Mfg. Co., P. O. Box 513, Boston, Mass. Secretary, Pearl E. Oldt, Chamber of Commerce Bldg., 12th Floor, Cincinnati, Ohio.

International Typographic Composition Association— Hotel Nicollet, Minneapolis, Minn., September 16, 17, 18, 1948. Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — Russell-Lamson Hotel, Waterloo, Ia., May 15, 16 and 17, 1948. President, Ed. C. Funk, composing room foreman, Waterloo, (Ia.) *Daily Courier;* Secretary-Treasurer, Paul Kamler, mechanical supt., Clinton (Ia.) *Herald.*

Lithographers National Association — Greenbrier Hotel, White Sulphur Springs., W. Va., July 21, 22, 23 and 24, 1948. W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — President Beryl A. Troutman, *Courier-Post,* Hannibal, Mo., Secretary-Treasurer O. K. Hammitt, *Monitor-Index,* Moberly, Mo.

National Association of Litho Clubs — Congress Hotel, Chicago, Saturday, January 24, 1948. Wm. J. Stevens, President, c/o National Association of Photo-Lithographers, 1776 Broadway, New York, N. Y.

National Association of Photo Lithographers — Netherland-Plaza Hotel, Cincinnati, Ohio, Sept. 15, 16, 17, 18, 1948. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

National Graphic Arts Education Association — Byron G. Culver, president; Fred J. Hartman, educational director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Printing Equipment Association, Inc. — James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — Hotel Statler, Boston, Nov. 8 and 9, 1948. President, Wm. H. Porter, Mech. Supt., New Haven (Conn.) *Register.* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

New Jersey Press Association Mechanical Conference —1948 Conference tentatively to be held in Atlantic City, N. Y., in June. Hotel and date to be announced later. President Neal E. Dyer, Mechanical Supt., Camden (N. J.) *Courier-Post.*

Northwest Mechanical Conference—Hotel St. Paul, St. Paul, Minn., Feb. 14, 15, 16, 1948. President Charles N. Bertram, Pressroom Supt., St. Paul (Minn.) *Dispatch and Pioneer Press.* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference — Fairmont Hotel, San Francisco, May 1, 2 and 3, 1948. President J. W. Fitzsimmons, San Francisco (Calif.) *Call-Bulletin;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News.*

PNPA Mechanical Conference — Benjamin Franklin Hotel, Philadelphia, Pa., April 9 and 10. William N. Hardy, Manager, PNPA, 209-213 Telegraph Bldg., Harrisburg, Penna. Chairman Mechanical Committee, E. O. Davies, Mechanical Supt., Harrisburg (Pa.) *Patriot* and *Evening News.*

Printing Industry of America—James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference— Hotel Adolphus, Dallas, Tex., Feb. 16 and 17, 1948. Chairman, W. F. Thompson, Austin (Tex.) *American-Statesman.* Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Southwestern Photo-Engravers Association — Texas Hotel, Fort Worth, Tex., January 8, 9 and 10, 1948. President, R. C. Walker, Southwestern Engraving Co., World Bldg., Tulsa, Okla. Executive Secretary, Virginia Nichols, 3621 Country Club Circle, Fort Worth 4, Tex.

strength of the type and rule in the form to the extent that if a hard mat is used in the press the height of some of the material is reduced appreciably with each molding, and the corners are slightly rounded off. To combat this deterioration, and lengthen the life of the form, is one of the major reasons for the use of an excessively wet mat.

Mat Molding Technique

In the actual molding process, the form is locked in a chase with bearers 0.918 in. high, or slightly lower. The form is leveled, brushed clean, and then dusted with a release powder such as zinc stearate. The mat is placed on the form, and backed up with a sheet of newsprint and as many as eight felt blankets. The assembly is then placed in the press, and the pressure applied. The amount of pressure, of course, varies with the printing area of the form. It should be initially great enough to mold the mat to the proper depth. Although it is not necessary to maintain the initial pressure during the entire drying period, the pressure should be sufficient to hold the mat firmly in position throughout the complete cycle.

In connection with the molding process it is interesting to note that an uneven form will often be leveled to a considerable degree in the mat. Many printers believe a plate should be made with the cuts and solids a few thousandths of an inch higher than the type matter, and that the fine rules should be slightly lower. On a press with average packing, less makeready is often required on a plate with these characteristics than one which is entirely level. Accordingly, the form is set up with certain parts high, and others low in an attempt to secure this condition. However, the results obtained in the mat are not as well defined as the differences set up in the form.

Function of Molding Combination

The reason for this leveling out of the printing surface in the mat is apparent when we consider the conditions which the mat is subjected to in the molding process. In the molding operation, a mat with original thickness of say 0.026 in. is compressed in the printing areas to a thickness of 0.018 in. to 0.016 in. This is a considerable amount of compression, and the floor or printing area of the mat is very dense and extremely resistant to further compaction. In securing the molding effect, we are not applying the pressure with a solid iron or unyielding surface which will come to a definite point with relation to the type matter, but rather with a resilient packing composed of a number of layers of felt. This resilient packing acts in the same manner as a powerful spring. As full molding depth is reached, the surface of the mat in the printing areas becomes very resistant to further compression. The high cuts and solids instead of being compressed deeper in the mat, merely serve to further deflect upward the resilient packing. This being thicker and more flexible than the

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Economic Justification Should Govern Present-Day New Building Programs

By ROBT. W. DICKERSON*

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BUILDING construction costs have risen to unprecedented levels during the postwar years. The causes for these increases are many. Some of them can be rationalized; others are without any possible justification. All together, they have engendered a hesitancy and a reluctance in the minds of the construction buying public that is keeping the brakes on a tremendous volume of building construction and improvement work.

Beyond the limits imposed by the fact that "cause" and "effect" must travel the same road, it is not the purpose of this discussion to concern itself with the causes which have led to the present high cost levels. Its purpose is rather, to try to discover an answer to the questions which collectively can be expressed thus: "Where do we go from here?"

A great many newspaper and printing plant improvement programs have been placed on the deferred shelf because those whose money must meet the cost of the improvements have felt (a) that the levels already reached by construction costs were beyond the limits of any economic justification and hoped (b) that a downward trend would soon become evident. Whether substantial grounds for these opinions and hopes do exist is a question worth pursuing. Upon the answer or answers found, depends a great deal that is of vital interest both to printers and publishers and to the construction industries. In the month of October, 1947, for our own enlightenment as well as to provide some specific information that had been requested by a client whose improvement program had been held in abeyance for several months, we undertook a survey of opinion in the construction industry with respect both to present values and future trends. In accomplishing this we interviewed executives of numerous reputable construction organizations, men whose interests were intimately involved and for whom superficial or wishful thinking was no temptation. It is our conviction, therefore, that the views expressed in this analysis represent a fair cross section of industry opinion and provide as reliable a weathervane as it is currently possible to obtain. For whatever value they may hold for those whose interests are touched by construction costs we submit the following resume:

1. Construction costs, as of October, 1947, appeared to be approaching stabilization. It had been felt that that point had been reached earlier in the year, but certain wage increases, notably in the steel industry, had upset calculations. It was estimated that from May 1 to October 1 the construction price rise had been about 10%. One contractor stated that in his opinion a sufficient degree of stabilization had been accomplished by autumn 1947 that he would not hesitate to make a firm, fixed price proposal on a simple industrial structure which could be scheduled and carried quickly to completion. On one newspaper project for which bids had been received in May, three fixed price proposals had been submitted, two of which were within cost estimates. A year ago it would have been practically impossible to obtain any construction proposal on any other basis than "cost-plus". All of this appears to indicate a decline in the uncertainties and unpredictables which have plagued the industry and the gradual settling down to a basis which at least approaches stabilization.

2. Substantial reductions in construction costs are not in sight. By unanimous opinion, no trend in that direction is in evidence. Certain factors of improvement are at work and their cumulative effect will tend toward cost reduction. Some construction materials are becoming more readily available, and as improvement in material supplies continues it will be favorably reflected in building costs. When a builder can schedule a job and carry it through to completion without the shut-downs and lay-offs which have inevitably accompanied the shortage of materials, equipment, etc. an improvement in production, efficiency and cost is bound to be shown. Even labor will show better performance when materials are available for continuous work. A workman who knows that a lay-off follows the exhaustion of the materials at hand will naturally try to make them last; will not work himself out of a job.

One of the firms interviewed had, with the help of a survey service, gone exhaustively into the question of the total percentage of construction cost represented by labor. That exploration went all the way back to the forests, the mines and the mills. They came up with 78% as the answer. All were agreed that nothing short of wishful thinking could envision a reduction in wage scales. Construction unions in many cities are already preparing demands for scale increases. The presumption may be made that these demands are, for the most part defensive and for resistance toward any downward pressure, but the fact remains that the only predictable hope for improvement in labor costs lies in improvement in production and efficiency. With only 22% of the construction dollar represented by materials, it is easy to compute that such an optimistic estimate as a 10% reduction in material prices would reflect only 2.2% in overall cost reduction. A 10% increase in production efficiency would accomplish much more.

3. So long as the present tax structure is in operation, one of the most potent influences toward improvement in labor efficiency, the scarcity of work, will be inoperative. Both in the field of maintenance and repair and in capital improvements, hundreds of corporations are plowing back profits into plant improvements rather than distributing them. Many construction firms maintain crews of workmen in these plants on a year-around basis. They are engaged not only in making repairs and replacements, but in the construction of additional space, the modernization of existing area, etc. The number of construction mechanics so employed is great enough to take the edge off any such movement as a construction buyers' strike. To have so large a number of construction workers deflected from the fields usually regarded as normal cannot but accentuate the acute shortage of mechanics which now confronts the building industry.

The reactions of the construction mechanic, production wise, are no different than those of the average of any other craft. His day's output of production is likely to be at a different level if he knows that a half-dozen other jobs are open to him (in fact he may be resisting overtures from several would-be employers) than if he were to start out in the morning and go the rounds from job to job looking for work. Unpleasant as the thought is, the threat of unemployment is still a potent factor in stepping up production. From all present observations the early future holds no such threat.

4. In view of the factual bases which underlie these opinions, it would appear that the economic justification of any new building or plant improvement program must still be found in the improvements in production, efficiency, economy, etc., which it promises. Salaries, wages and all other production costs have increased to the point where inadequate or inefficiently arranged plant facilities can impose heavy operating penalties. It is the unanimous opinion of those whom we have interviewed that while the cost of providing adequate, well planned plant facilities is at an all-time high, it is not generally out of line with the levels which have been reached by production and operating costs, and that failure to make improvements which will increase efficiency and effect economies can become more costly in the long run than the improvements would have been.

5. It seems clearly obvious from our surveys that plant improvement programs should still be limited to projects which can be justified on the basis hereinbefore outlined. To construct space and facilities under present day conditions, unless they can be justified economically, tends only to aggravate and increase the deficiencies which still plague the construction industries and to contribute to the delay of recovery.

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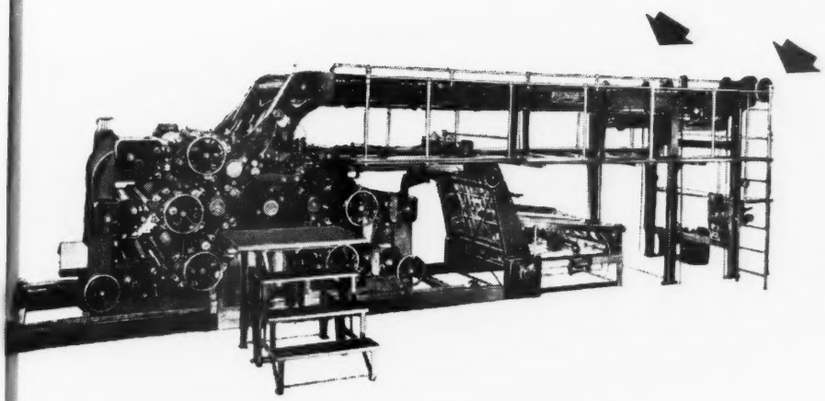

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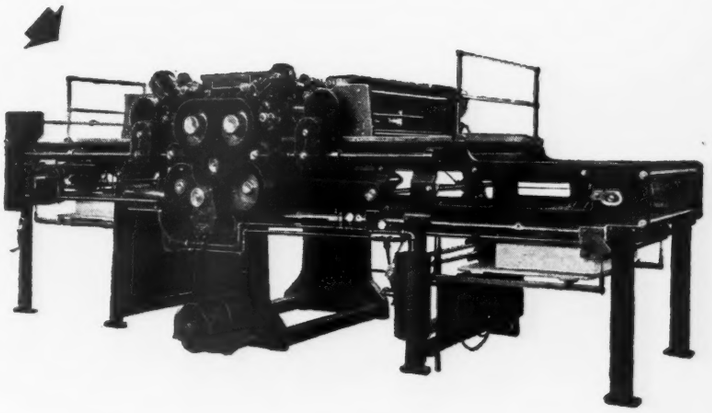

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SPECIALTY STEREOTYPING

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mat absorbs the slightly higher pressure.

In actual practice, it is possible to exert more control over the degree of penetration of fine rule than large solids.

Unfortunately, the use of a considerable thickness of felt blankets is a necessity in this method of molding. This is so because the body of the felt is the only area into which the moisture being driven from the mat is free to go. Attempts have been made to reduce the number of felts by placing a vacuum or suction box beneath the upper platen to remove the water vapor, but difficulty is then encountered with the holes or screen through which the vapor is drawn giving insufficient support to the back of the mat during the initial pressure period.

Upon removal from the press, the mat is trimmed and backed up as in all methods of molding, and it is then ready to be shaped and cast.

Register and Shrinkage Control

We have stated that the mat is dried upon the form in the press. This is the ideal condition from the standpoint of securing consistent register and shrinkage control. Some serious problems however, are presented when a bone-dry flat mat, is formed or shaped to enter a small diameter rotary press casting box. A newspaper mat or other mat which is placed in the scorcher while still moist is quite flexible and will easily conform to the radius of the scorcher. With a bone-dry mat there is an ever present danger that it will buckle or crease parallel to the axis of the form in certain spots such as column rules, and thus not conform truly to the curve of the casting box. The logical solution to this problem is to leave just enough moisture in the mat as it comes from the press to allow it to be formed without buckles. In practice, however, it is almost impossible to dry a mat in the press and still leave a certain definite moisture content consistently. If too much moisture remains the shrinkage is unpredictable and if too little, the mat is too stiff. It can be readily appreciated that there is no difficulty in securing a bone-dry mat from the mat press, because it can always be left in the machine long enough to obtain this condition, whereas to remove it at exactly the point where a certain residual moisture remains requires a degree of control which is too exacting for the average shop.

Conditioning Mat After Molding

Recognizing the fact that a bone-dry mat is difficult to form correctly, and appreciating the value of some slight moisture in the mat as an aid to uniform curving of the mat in the former, some attempts have been made to moisten or condition the mats after they come from the mat press and prior to the forming operation. This is a very delicate operation, however, and unless done with great care shrinkage problems will arise which tend to nullify all the advantages gained by drying on the form in the mat press. The most practical method of accomplishing this is to hang the mats in a conditioning cabinet, containing a closely controlled atmosphere with respect to humidity and temperature.

For the average shop, however, if the production schedule will permit, good results may be secured by allowing the mat to rest in the open air for a period of time. Merely from contact with the room air a mat through its hygroscopic characteristics will absorb a considerable moisture content. This natural absorption of water vapor is uniform throughout all of the mats. Although it varies with the relative humidity of the room from season to season it creates no outstanding shrinkage problems. Mats which are given the opportunity to absorb moisture in this fashion will be found to be much more easily formed than those which are formed directly as they come from the mat press in a bone-dry condition.

Forming Mat in Two Stages

A further aid to the forming of mats which tend to buckle is to accomplish the operation in two steps. Ordinarily with a newspaper mat the scorcher is of such dimensions that the mat is formed to a curvature approximately equal to that of the casting box. In some cases with mats which are quite dry, better results may be obtained by making the diameter of the former or scorcher larger than that of the box in which the mat is to be cast. The danger of buckling in the former is reduced because the curvature at that point is not as abrupt and the final bending is accomplished in the box itself.

It should be noted, however, that this system of forming in two stages is most practical where vacuum casting boxes are available to assist in holding the mat in place during the casting operation.

Vacuum Casting Box

The vacuum casting box has been found to be most practical in the casting of newspaper plates, and its use is extending to other types of printing with considerable rapidity. Boxes designed on this principle are built usually with the vacuum on the mat side of the box only, although there is an increasing usage of boxes in which both the mat and cope are vacuum equipped. The chief advantages of the vacuum box are that the mat is held firmly over its entire surface to the curvature of the box. The plates are also more solid in character with a minimum of gas pockets near the surface. As a result, a much superior plate is obtained. In operating vacuum boxes, considerable care has to be exercised to insure that the metal does not run behind the mat and plug the many small holes in the surface of the box.

Securing Level Printing Surface

Although many old style boxes have been built with a plain iron face in contact with the plate on the cope side of the box, most satisfactory results are secured if a sheet of cope paper is interposed between the cope of the box and the area into which the metal is poured. A prime requisite in a stereotype plate is to secure a level printing surface of good quality. The under side of the plate is not of as great importance, as it can be corrected by boring or shaving. For this reason the box should be constructed to favor the formation of a good printing surface, at the cost if necessary of a poor back.

When plates are cast in a box which has an iron surface in contact with the stereotype metal on the under side or cope, and a paper mat between the metal and the mat side of the box, an undesirable condition arises. Iron is an excellent conductor of heat, whereas a mat has considerable resistance to heat transfer. We thus find that the metal being poured will first solidify on the cope side of the box or under side of the plate which contacts the iron door. The mat side not losing its heat as rapidly will solidify later, and the shrinkage of the metal with sinks and other undesirable features will take place near the printing surface rather than the underside of the plate.

The use of cope paper on the door of the casting box tends to alleviate the one-sided solidification of the metal, and to a considerable extent assists in securing a superior printing surface. Of course, an even better condition would be one in which the mat side of the box could be maintained at a lower temperature than the cope side, and in which final solidification could take place near the surface of the cope, thus bringing the shrinkage and low spots to that side. There are, however, many technical difficulties involved in securing these conditions.

Causes of Poor Plates

Among the major advantages of the modern newspaper plate caster are the relatively uniform rate of operation and the precise control of temperature which is possible on an automatic machine. Two of the major factors which tend to produce poor plates in the small stereotype shop are poor control of metal temperatures, and spasmodic operation of the casting box. Accurate control of metal temperature is of vital importance in the production of good plates. Plates poured with metal of too low a temperature tend to solidify so rapidly that the characters are not always completely filled out. Metal that is too hot results in excessive mat deterioration and shrinkage troubles as the metal cools.

Plate Casting Rates

In operating a casting box, it will be found that there is a certain rate of casting which will produce the best results. If the box is operated too slowly it will not be warm enough to produce the best quality plates. If operated too rapidly it will build up a temperature

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which is detrimental to good quality. If a shop is operating a number of boxes, it is advisable to keep them all in operation at a moderate rate of speed rather than to concentrate on one box and work that one as rapidly as possible until all of one size plates may be produced. The writer has seen shops in which one box at a time was worked furiously until it became so hot that it was necessary to reduce the temperature of the metal in the pot to secure satisfactory results. Having cast all the plates desired from the one box, the operator would proceed to the next one, turn up the heat on the metal pot again, and repeat the procedure. Much better results could have been obtained by keeping the metal at a constant optimum temperature, and alternately casting plates from several boxes, each operating at its most efficient temperature.

One aspect of stereotyping which is of particular interest to the specialty printer is the method of preparing the under side of a cast curved plate so that it will fit the press cylinder correctly.

In many of the older stereotype installations for the specialty shop, the plates were taken as they came from the box, and placed on the rotary press without any attempt to bore or shave the inner curved surface. The results obtained were often unsatisfactory because the plates would not lie flat on the cylinders, or were too thick or too thin. Unless the curvature of the plate matches exactly the radius of the press cylinder, the plate will either rest on its edges or on its center. Although a plate in this condition can be made to print with a considerable expenditure of makeready time, it has a tendency to spring and gradually pound down into position during a run with resultant loss of printing quality.

Shaving and Boring the Plate

To bring the inner surface of the plate to a true curvature, and to insure that the printing height is uniform, boring or shaving of the inner surface is often resorted to. In the boring operation, the plate is clamped into a semi-cylindrical saddle, and progressively bored from one end to the other with a rapidly revolving fly cutter mounted on a spindle. Because of the soft metal involved it is possible to make a considerable reduction in plate thickness rapidly by this method. In fact, certain plants cast their plates much thicker than required by the press, thus gaining the advantage in plate quality to be secured by casting thick plates, and then reduce them rapidly to press thickness on the boring machine.

The shaving operation sometimes used in lieu of the boring method consists of supporting the plate in a cylindrical saddle as before and shaving or sizing the plate to correct thickness with one revolution of a knife which is as long as the plate. This method is the one largely used in the finishing of newspaper plates. With this system, however, it is practical to only remove a minimum of metal, as the pressure exerted by a full length knife on the plate is considerable, and there is danger of damaging the printing face of the plate which must resist this pressure.

An effective means of reducing the shaving pressure on the face of the plate is to rib the plate on the cope or under side when it is cast. A plate in which one-half of the total cope side area is composed of ribs, has naturally only half the shaving pressure exerted on it as will be encountered by an unribbed plate.

Handle Newly-Cast Plates Carefully

In connection with the shaving and boring of plates after they have been removed from the casting box, it is not always recognized that many of the defects which the shaving or boring operation is intended to correct arise after the plate has left the box. Newspaper plates produced on automatic equipment are handled in a uniform manner and consistent results are obtained. The specialty printer, however, usually treats his plates individually and by hand. Although it might seem as if a plate was fixed in shape and resistant to changes as soon as the metal has solidified in the box, this is not so. Especially in the first half hour after a plate has been cast, it is in a comparatively unstable condition. The length of time it remains in the casting box after solidification, the position it is placed in to cool after it comes from the box, and the degree of roughness with which it is handled all tend to influence the final shape of the plate. The inexperienced operator does not always recognize the need for careful and consistent treatment of plates as they come from the casting box, and by his careless manipulation allows needless warping of the plates to occur.

Use Modern Control Means

The art of stereotyping has been unfortunately handicapped because it is an old art, one that was evolved before many of the modern techniques of temperature and quality control were available. Many of its practices have been handed down from the time when success depended on the luck or good judgment of the operator. It is true that an approximate idea of metal temperature can be obtained by dipping a sheet of newsprint into the metal pot to see if it browns nicely, but this is no substitute for a precise temperature indicating and controlling instrument. When we analyze the techniques of such methods of platemaking as are used by offset platemakers, or rubber platemakers for example, we discover that these comparative newcomers control their operations precisely and with great uniformity by utilizing every available scientific means.

Executives in many progressive stereotyping plants now recognize the fact that the utilization of precision control and methods can do much to improve their operations. Considerable progress is being made in the production of superior stereotypes. As further development work is undertaken, there is every reason to believe that further improvement will be made.

Resigns Position to Enter Printing Equipment Field

Joseph D. (Joe) Goggin, well known manager of stereotyping machinery sales for Goss Printing Press Co., resigned to form his own sales organization to be known as Newspaper Publishers Supply Company with offices at 1639 North Lorel Avenue, Chicago 39. The new organization will handle products of Printing Equipment Corp., Joliet, Ill. Goggin

Joseph D. Goggin's company, Newspaper Publishers Supply Co., becomes sales representative for Printing Equipment Corp.

entered the newspaper profession in 1914 in the stereotyping department of a Chicago newspaper, his first job after leaving high school. Except for his tour of duty with the U. S. Marines in France in 1917, he has been associated with newspaper publishing in one capacity or another ever since. When Burgess stereotype mats were introduced in 1928, he became a service representative. Later as a salesman for Burgess, Goggin assisted in the development of that company's territorial sales and service set-up. From selling stereotype mats, Goggin joined Goss. Goggin is the author of the *Manual of Stereotyping*, a technical book in use around the world. In some European countries, also in Australia, his manual is the official text book. He is a regular contributor to the *British Electrotypers & Stereotypers Journal* and other trade publications. He is a frequent speaker at newspaper mechanical group meetings and before meetings of Printing House Craftsmen. Goggin is an active member of the Chicago Local of the International Stereotypers and Electrotypers Union, International Association of Printing House Craftsmen, and several veterans' organizations.

Fine Annual Report

For the fiscal year ended September 30, 1947, Kable Brothers Co., of Mt. Morris, Ill., well known magazine printers, has published its annual report. The report is 10¼ in. wide by 8½ in. high and consists of 16 pages. The report is well illustrated and is printed letterpress throughout.

Gross sales for the fiscal year amounted to $8,274,796. Average number of employees was 905. Earnings per share of common stock was $3.14.

From the reader standpoint, this report is quite modern inasmuch as the context carries intimate discussions about the company, its policies and its present problems.

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OUR THANKS to the many firms in the industry who pioneered, tested and PROVED the finer working qualities of the E.B.CO Offset Press.

Patents For The GRAPHIC ARTS FIELD

Covering patents issued November 11, November 18, November 25, December 2 and December 9.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

During the four weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

2,431,031. STAR WHEEL FOR MATRIX COMPOSING MACHINES is designed to obviate camber, i.e., the construction is said to prevent the arms of the star wheel from engaging the sides of a matrix at a single point and causing the matrices to be assembled in an uneven manner. The star wheel has a number of arms extending from its center, the arms being provided with projecting yielding matrix engaging surfaces. Alternatively, the wheel may be formed of a number of sections laterally secured together, the central section or sections being provided with a projecting yeilding matrix engaging surface. In either case, radial spaces or slots that extend outward from the center of the wheel are provided. The central section has an outwardly projecting brush, wire, or the like. The brush or wire is embedded in a base of suitable material and extends bevond the side portions. Another modification of the invention provides arms with a non-yeilding surface and which are broken up into a number of sections divided by radial slots. Two such slots may be provided so that the arms of the star wheel are in three sections with the central section about twice the width of the side sections. The width of the slots may be the same as the width of the side sections. Invented by Herbert Ellis, Shanghai, China. Unassigned. Application September 30, 1943. 12 claims.

Feeding, Folding, and Delivery

2,431,514. SHEET FEEDING APPARATUS automatically supplies individual sheets from a stack or stacks of sheets to automatically operated machines, such as forming presses, tubular body makers, lithographic presses, etc. A bulk stack rack receives a lower stack of sheets. A sheet separating device of the top take-off type is provided to separate successively the top sheets of the stack from the stack. An upper auxiliary stack of sheets is retractably supported and the separated sheets are transferred by four vertically reciprocable parts, each of which is slidably mounted on each of four square columns and synchronized with the separating mechanism previously referred to. In synchronism with the transferring means the auxiliary stack is retracted whereby the sheet or sheets being transferred may be added to the height of which is limited by a limit switch which interrupts the drive to the drive shaft. Individual sheets are then supplied in succession from the top of the auxiliary stack by a pair of suction cup assemblies, which are not part of the invention. While the auxiliary stack supplies sheets to the lithographic press or other machine, therefore, the main stack may be replenished. Invented by Clifford S. Seltzer, Warren, Ohio. Assigned to The Taylor-Winfield Corporation, Warren, Ohio. Application September 15, 1944. 9 claims.

(Miscellaneous patents and first two patents under Plate Making deferred from last month)

Miscellaneous

2,429,935. CRINKLED FABRIC of the seersucker type is made by a printing process from unbleached cloth of normal non-creping twist and texture. This cloth is first bleached and stretched warpwise only. Then the cloth

THE air will soon be filled with platform planks and pledges.

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2 NEW Hammond TIME SAVERS

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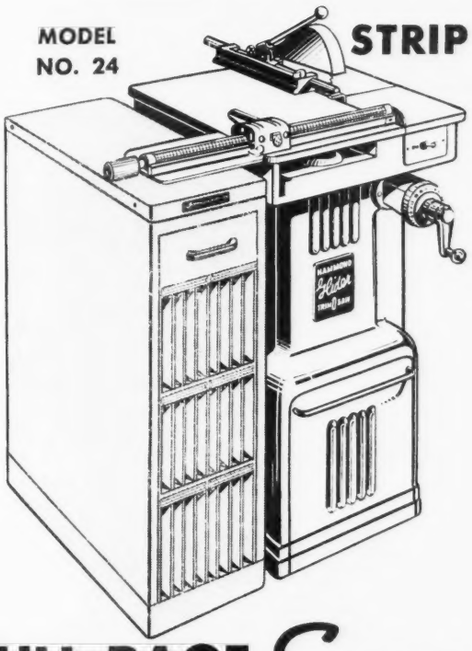

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Put a Strip Material Cabinet by your Hammond TrimOsaw. This will mean less steps and thus save you time and money.

There are 24 compartments for full length strip material. The compartment width accommodates rule and border material. Compartments can be labeled with the card holders provided. A handy drawer at the top can be used for tool and accessory storage. Being entirely made of steel and rigidly constructed, the cabinet is exceptionally sturdy and solid.

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The Hammond Full-Page Electric Scorcher is built to scorch mats in minimum time with maximum efficiency.

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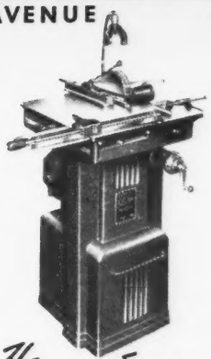
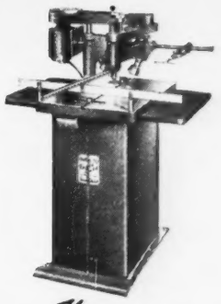


Hammond GLIDER TRIMOSAW

Hammond MERCURY TRIMOSAW



Hammond RADIAL ROUTER

is printed in the warpwise stretched condition with localized areas of a hardenable melamine formaldehyde resin, dried and the resin hardened with the cloth still in the stretched condition. The stretched weave is immobilized by the resin in the printed areas and, further to make the cloth non-shrinkable under a standard laundry conditions, the cloth then is finally wet and dried to restore the original warpwise length. Invented by Albert S. Jones, Dudley, Mass., and Gerald B. Stackpole, Oxford, Mass. Assigned to Cranston Print Works Co., Cranston, R. I. Application August 3, 1944. 1 claim.

2,430,254. METHOD OF ELECTROLYTICALLY PRODUCING QUINONEIMINE DYES ON A FIBROUS SHEET MATERIAL involves treating the material, either paper or cloth, with an aqueous solution containing a sufficient amount of a water-soluble inorganic salt as the electrolyte to facilitate the passage of the electrolyzing current. The solution also includes a sufficient amount of an aromatic para-diamine, and an aromatic compound having an unsubstituted ring position para to a group selected from the class consisting of amino and hydroxyl groups, to form a quinoneimine dye. Anodic oxidation and coupling of the aromatic paradiamine and of the aromatic compound is effected with the attendant formation of a quinoneimine dye by subjecting the fibrous sheet material to the action of an electrolyzing current. Invented by Myer Solomon, deceased, late of Westmont, N. J., Nellie W. Solomon, administratrix, Princeton, N. J. Assigned to Radio Corporation of America, New York, N. Y. Application December 23, 1942. 5 claims.

2,430,386. PRINTING AND THEN COATING FIBROUS MATERIAL, the coating serving to enhance the "tooth" or matte surface of paper thus treated so that markings upon it with pencil, ink, chalk, or crayon may be removed, leaving the surface in condition to be written on again. The process is applicable to deeds, maps, labels, wrappings, etc. The method of treating includes first printing, then running the material through a bath of polymerizing solution so that a thin coating surrounds the individual outer fibers. The solution is polymerized and the material then calendered. The polymerizing solution consists of 6 parts by weight of vinyl acetate, 2 parts by weight of toluene, and 28 parts by weight of methylated spirits. Invented by James Bayley Butler, Dublin, Eire. Unassigned. Application July 24, 1944. 7 claims.

Plate Making

2,429,107. STAINLESS STEEL LITHOGRAPHIC PLATE is given a copper image, the copper being left by the etching solution following photographic development. A rust resisting steel plate is roughened or grained by mechanical means, cleaned with an acid solution, and coated with a photographic layer. The layer is composed of 75 grams of ammonium bichromate and 10 grams of manganese sulfate dissolved in 325 c. c. of water, 50 grams of albumin dissolved in 150 c. c. of water, 1 liter solution of gum arabic of 14.5° Be and 30 c. c. of ammonia of specific gravity 0.91. The plate is exposed and then developed in an aqueous solution. The bare portions of the plate which shall be ink-receptive are then treated with an etching solution containing calcium chloride, ferric chloride, nitric acid, hydrochloric acid, and cuprous chloride. Invented by Torsten S. A. Petren, Fullesta, Huddinge, and Erich K. W. Sternberg, Abrahamsberg, Sweden. Assigned to Ahlen & Akerlunds Forlag, Stockholm, Sweden. Application May 25, 1943. 3 claims.

2,429,271. LITHOGRAPHIC MASKING PAPER is made from a relatively transparent stock sheet dyed an orange to yellow color by a dye which is insensitive to alkali. Both sides are then coated with a mixture of silicate of soda and an equalizer of either gelatin or latex. Another coating for both sides consists of clay in a sizing such as casein or starch and this coating may either be applied before or after the afore-mentioned coating. If it is applied afterwards, then a third coating is applied consisting of another layer of the silicate of soda and the equalizer. Invented by Frank A. Marty, Flushing, N. Y. Unassigned. Application November 16, 1941. 6 claims.

2,430,498. GELATIN HALF-TONE PRINTING PLATE PROCESS is an improvement in the photo-gelatin process known also as heliotype or albertype. Light rays, first passing through the negative, are dispersed through a multiple minute lens screen onto a sensitized gelatin plate which hardens upon exposure to light. Dots are formed by this first light source. Other dots, adjacent to the first dots, are formed by a light source of different intensity, the rays also passing through the negative and the lens screen, but from a slightly different angle. The result is a balanced half-tone effect. Invented by Victor C. Ernst, Independence, Ohio. Unassigned. Application September 21, 1943. 9 claims.

2,431,359. INEXPENSIVE GRAVURE PRINTING PROCESS by which type matter and pictorial matter of any outline are simultaneously etched on an intaglio printing surface. A special photo-sensitive element comprises a transparent plate, or film, having one or more conventional type emulsion layers; also a special highly sensitive emulsion layer which, upon exposure and development, forms a color-selective screen for the picture area. Substances for dyeing, shading, etc., may be embodied wholly in the thin emulsion layer and in a suitable developing bath, or wholly in the developing bath. Preferably the picture area screen or screens are tinted yellow to reduce the amount of actinic light which can pass therethrough to the normally blue or actinic light-sensitive material commonly employed as the photo-sensitive coating on the surface to be etched. After being thus prepared, the tinted picture is combined with a photographic positive of the type matter with which it forms a complete page assembly to be printed, and both picture and type surface to be etched, in the usual manner. A satisfactory developing agent is p-aminodiethylaniline combined with tartaric or glycolic acid. Invented by Kurt Wolfson, Newton, N. J. Unassigned. Original application January 21, 1941, now Patent No. 2,373,732 (See *Printing Equipment Engineer,* June 1945). Divided and this application January 11, 1945. 14 claims.

2,431,710. INTAGLIO PRINTING SURFACE is suitable for either monotone or multicolor printing. The plate retains the advantages of conventional rotary intaglio printing in the reproduction of dark tones, and at the same time the reproduction of light tones or tints is improved. This is accomplished by varying the sizes of the cells in the plate both in area and depth according to the depth of tone to be printed. The cells of greatest area are arranged in a gravure screen pattern. All of the cells are separated by walls which provide a doctor blade bearing surface. Invented by Oswald R. Schultz, New York, N. Y., Robert F. Nestle, Ardmore, Pa., and Matthew J. Romano, Philadelphia, Pa. Assigned to The Philadelphia Inquirer Co., Philadelphia, Pa. Application July 22, 1943. 4 claims.

2,432,043. STEREOTYPE PLATE CASTING MACHINE introduces the molten metal into the bottom of the mold space so that the molten metal displaces the air upwardly as a single mass as it rises upwardly as a pool, and does not trap any air as it solidifies. Intermingling of molten metal being introduced into the mold space and air being displaced therefrom, which results in porosity of the plate, is avoided. The core and casting box are placed at an elevation above the metal-melting pot. The mold and melting pot are interconnected by conduit for introduction of the metal into the lowest point of the mold space. Introduction of fluid metal is controlled by a valve which is designed and operated so that the formation of a sprue on the cast plate by the metal in the connecting conduit is avoided, and also returns the molten metal in the conduit to the melting pot. A feature of the invention is the coordination of the operation of this valve with the pump means for supplying the molten metal from pot to mold space, whereby the production of cast plates can be automatically or semiautomatically carried on without interruption. The top of the mold space, ordinarily left open, can be enclosed by a method of the patent, so that the air, as it is displaced upwardly in the mold space, is confined and exerts an increased pressure on the molten metal as it cools and solidifies, whereby a close grain plate with finer detail is obtained. Invented by Oscar C. Roesen, Scarsdale, N. Y., and Charles L. Ricards, South Plainfield, N. J. Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Application December 2, 1944. 16 claims.

2,432,377. METHOD OF FORMING CASTING MATRICES from a pair of cardboard sheets, each having a glazed surface, consists of cutting the design from one sheet and affixing it to the other. A carbon paper is positioned on the glazed face of one sheet, the second sheet is positioned on the carbon paper, and a second carbon paper is positioned on the glazed surface of the second sheet. An outline sketch of the designs, letters, or forms to be cast in the metal is disposed on the second carbon paper. The outlines of the sketch are traced with sufficient pres-

Quick Reference Guide
26 CHRISTENSEN-DEXTER Basic Machines for...

FEEDING – CHRISTENSEN CONTINUOUS STREAM FEEDER – For flat bed, rotary and offset presses and varnishing machines where high speed is essential.

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CHRISTENSEN STITCHER FEEDER – for inserting and stitching saddle-bound catalogs and periodicals.

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sure to carbon the outline on both sheets. Designs of one sheet are then cut and the designs are affixed in position on the carbon outlines on the other sheet so that the metal cast thereon will be formed with depressions corresponding to the designs. Engraving is not required. Invented by Zelmer V. Brantley, Houston, Texas. Unassigned. Application May 1, 1944. 2 claims.

Printing Inks and Related Chemicals

2,431,078. VINYL RESIN SUSPENSIONS are useful as textile printing pastes to print designs directly on cloth in lieu of dyeing. One stable, fluid suspension of a toluene-insoluble vinyl resin in a suspending liquid comprises a solvent plasticizer for the resin and a mixture of liquid hydrocarbons containing from 20% to 80% aromatic hydrocarbons and from 20% to 80% aliphatic hydrocarbons. The ratio of the vinyl resin to the hydrocarbon mixture is between 0.3:1 and 1.9:1 and the ratio of the plasticizer to vinyl resin is between 0.35:1 and 1:1. The vinyl resin is a minutely subdivided emulsion polymer of a monomeric vinyl chloride. Invented by George M. Powell, 3rd, and Theodore E. Mullen, South Charleston, W. Va. Assigned to Carbide and Carbon Chemicals Corporation, New York, N. Y. Application June 27, 1944. 2 claims.

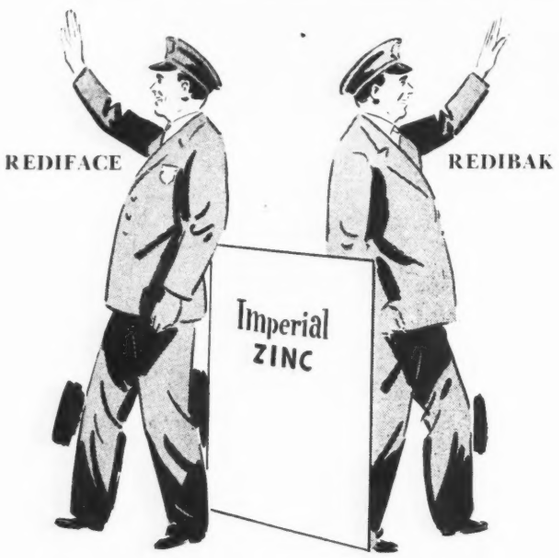
2,431,127. PROCESS OF TREATING CASHEW NUT SHELL LIQUID yields a product usable in making printing inks, varnishes, molding compositions, etc. Process comprises reacting the acid in cashew nut shell liquid, or hydrogenated cashew nut shell liquid, with alkaline earth metal ions to form the alkaline earth metal salt. Thereafter the salt is separated from the toxic phenolic constituents, and the organic acid is regenerated from the separated salt by an acid capable of displacing the organic acid (anacardic or tetrahydroanacardic) from the reaction mixture. The phenolic materials react to only a slight extent with alkaline earth metal ions, so a very sharp separation of acid from phenolic material is effected, and acid of a high degree of purity is obtained. Invented by Roland E. Kremers, Summit, N. J. Assigned to General Foods Corporation, Hoboken, N. J. Application April 29, 1944. 11 claims.

2,431,191. COBALT RESINATE OF A HEAT-TREATED ROSIN is usable in printing inks. The resinate has a cobalt content greater than the combining proportion of the rosin based on its acidity but not in excess of 14% by weight. The compound is produced by fusing a heat-treated rosin with a cobalt compound capable of reaction with the rosin, in an amount sufficient to give the defined cobalt content at a temperature of 200-340° C. The heat-treated rosin that is used is the product obtained by a process consisting of heating a natural rosin at a temperature in the range of 250-300° C until the specific optical rotation has reached the range of about plus 20° to about plus 60°. Among usable cobalt compounds for combining with the resin thus treated are the cobalt salts of fatty acids. Invented by Paul R. Mosher, Wilmington, Del. Assigned to Hercules Powder Company, Wilmington, Del. Application September 4, 1941. 12 claims.

2,431,708. PRINTING COMPOSITIONS FOR TEXTILES comprise ester salts of leuco vat dyestuffs and betaines or sulfo-betaines which contain an aralkyl radical. One composition contains an ester salt of a leuco vat dyestuff and a water-soluble, stable internal salt of a tertiary to quaternary amino acid selected from the class consisting of betaines and sulfobetaines both of which contain an aralkyl radical. The dyestuff thus obtained is useful for the preparation of printing pastes for printing according to the nitrite developing process. The printing paste contains, in addition to the dye, water, neutral starch tragacanth thickening, sodium nitrite solution, and sodium carbonate solution. Invented by Roger Ratti, Neu-Allschwil, near Basel, and Philipp Brandt, Basel, Switzerland. Assigned to Durand & Huguenin S. A., Basel, Switzerland. Application November 29, 1943; in Switzerland April 2, 1941. 5 claims.

2,431,889. MIXTURES OF DIAMINO DIPHENYL AZO COMPOUNDS yield a dyestuff or pigment characterized by good tinctorial value. A co-reacted mixture of disazo compounds is prepared by the process of the invention. Steps include nitrating orthonitrodiphenyl under conditions producing a mixture of 2,2'-dinitrodiphenyl and 2,4'-dinitrodiphenyl free of other dinitrodiphenyl compounds. The mixture is subjected to reduction under conditions

Not just ONE SIDE
but BOTH SIDES



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SIZE	*In lots of 50*	100	500	100 CAPACITY
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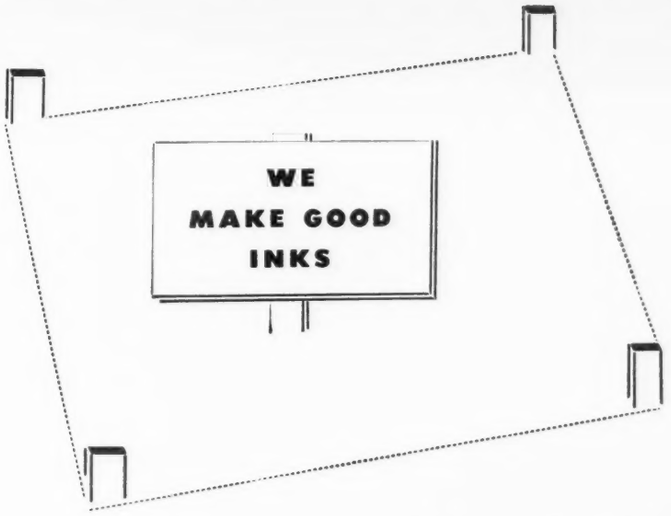

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producing a mixture of 2,2'-diaminodiphenyl and 2,4'-diaminodiphenyl free of other diaminodiphenyl compounds. The unseparated mixture of diaminodiphesyls is tetrazotized and the unseparated tetrazotized compounds are coupled with an azo type coupling component. The dyestuffs may be soluble dyes or insoluble pigments according to the processing and the pigments may be used with oil vehicles, etc. Invented by Alexander H. Popkin, Bronx, N. Y. Assigned to Sun Chemical Corporation, Corporation of Delaware. Application May 2, 1942. 14 claims.

2,432,041. TEXTILE PRINTING COMPOSITIONS are adapted for the application of difficulty soluble ester salts of leuco vat dyestuffs. Besides ester salts of leuco vat dyestuffs, the compositions contain stable salts of quaternary ammonium compounds which are derived from bases containing pentavalent nitrogen, and water-soluble acid amides; the stable salts of quaternary organic ammonium bases containing at least one hydroxy group with inorganic or organic acids are suitable. Prints on fabrics are distinguished by evenness, brilliancy of shades and great dyeing power. The salts of quaternary ammonium compounds may be obtained by quaternizing tertiary alkylolamines with the aid of known quaternizing agents such as alkyl halides, etc. The water-soluble amides of carboxylic acids and of carbonic acid are particularly suitable. Compositions for printing textile fibers include, admixed with an ester salt of a leuco vat dyestuff, the following: trihydroxyethylether of methyl-triethanol-ammonium-methyl - sulfonate and a water-soluble acid amide; the hydroxyethylether of hydroxyethylpyridinium chloride and a water-soluble acid amide; the trihydroxyethylether of methyltriethanol - ammonium - methyl - sulfonate and urea; and the hydroxyethylether of hydroxyethyl-pyridinium chloride and dicyanodiamide. Invented by Roger Ratti, Neu-Allschwil, near Basel, and Philipp Brandt, Basel Switzerland. Assigned to Durand & Huguenin, S. A., Basel, Switzerland. Original application May 4, 1942, Serial No. 441,752. Divided and this application November 29, 1943. In Switzerland May 5, 1941. 9 claims.

2,432,393. MONOAZO COMPOUNDS CONTAINING A CF_3 GROUP are prepared by diazotizing an arylamino compound of the benzene series or of the naphthalene series or an aminoazobenzene, and coupling the diazonium compounds obtained with trifluoromethylaniline, a trifluoromethylnaphthylamine, a trifluoromethyl-1,2,3,4-tetrahydroquinoline and a trifluoromethyl benzomorpholine coupling component. Products are water insoluble and a dispersing agent, such as a sulfonated oil or a soap, is desirable in grinding the dye to a paste.The nuclear non-sulfonated compounds are of value for dyeing of cellulose derivatives, while the nuclear sulfonated compounds have utility for dyeing wool, silk or nylon. Products are also usable in coloring lacquers and coloration can be effected by printing, stencilling or other methods. Invented by Joseph B. Dickey and James G. McNally, Rochester, N. Y. Assigned to Eastman Kodak Company, Rochester, N. Y. Application January 20, 1943. 5 claims.

2,432,461. PIGMENT PREPARATIONS are obtained which are quickly wet both by water and oil systems. Thus they are applicable to carboon black, preferable Micronex W-6, to water-in-oil textile printing pastes, as well as to oil-in-water emulsion type paints and uniformly pigmented rubber. An oil-wetting, water-wetting carbon black composition that is disclosed comprises a carbon black and a surface active agent with an acid salt flocculating agent at least sufficient to destroy the colloidal dispersing power of the dispersing agent. The latter may be a condensation product of napthalene sulfonic acid compounds with formaldehyde or lignin-sulfonic acid and glycoside extracts of tannins (e.g., quebracho extract powder). Invented by Vincent C. Vesce, Ridgewood, N. J. Assigned to Harmon Color Works, Inc., Patterson, N. J. Application May 8, 1944. 19 claims.

Printing Presses and Equipment

Reissue 22,942 of 2,281,211. TEXTILE PRINTING APPARATUS of the Rice Barton type (note assignee) is adapted for continuously printing fabric of odd lengths. A primary feature of the invention involves applying tension to the fabric just prior to its entering the printing zone and holding it under uniform tension. To this end, a brake which tends to hold back on the cloth as it is drawn forward by the printing machine is used. This brake may be any suitable type, hydraulic or electrical, which is automatic in operation. The printing machine may be continuously operated although the fabric as well as the back gray cloth comes in

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Pulling proofs on either cellophane or glassine is just as easy as making black and white proofs when you have the necessary equipment and follow simple instructions. In fact, with the No. 4T Vandercook, you can make either transparent, reproduction, or regular proofs. The transparencies—printed on both sides from either type or halftones—are used in the production of lithographic plates and rotogravure cylinders. Full information gladly mailed upon request.

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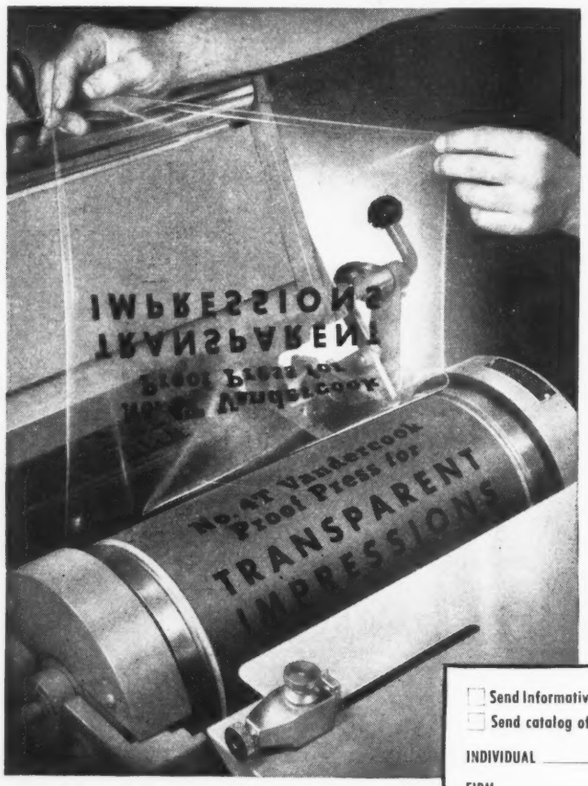

SPECIFICATIONS

No. 4T Vandercook Proof Press

Bed Size.....15"x 35"
Max. Sheet.14¾"x 20"
Max. Form....14"x 18"
Floor Space..2'2"x 6'6"

Illustration shows cellophane proof being removed from cylinder.

Mail Coupon

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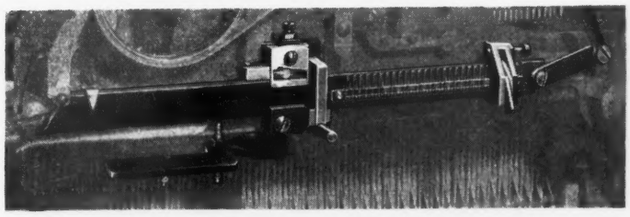
This is what one machinist writes about the ***Improved . . .***

ASSEMBLER SLIDE BRAKE and BRACKET

(Part No. M-3)

Nov. 7, 1947



Shown with the Brake above is the Improved Assembler Slide Bar and Clamp (Part No. D-1654A)

"The Assembler Slide Brake (M-3) is a revelation in the assembling of mats. On the machine we installed it, we had continued trouble with Spacebands jogging the Slide too far to the left, causing a transposition. Nothing we seemed to do remedied the trouble, even the installation of new Slide Brake parts . . . . You have the operator's undying thanks."

Next time you take up on a belt think of ACE (stretch less) Belts.

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limited lengths. A receptacle for the fabric is located between the fabric supply and the printing machine. The fabric is withdrawn and fed into the machine at a slower rate than the fabric is fed into the receptacle allowing time for securing a new length to the end of the fabric running to the machine. Invented by Stephen B. Stafford, Oxford, Mass. Assigned to Rice Barton Corporation, Worcester, Mass. Original No. 2,281,211, reported in the June 1942 issue of *Printing Equipment Engineer*. Application for reissue February 11, 1947. 13 claims.

2,430,644. RECIPROCATING MOTION for the beds of printing presses and cutting and creasing presses to reverse the bed during each stroke of the machine. It may be easily applied to existing flat presses. A rotatable pinion is mounted on a bar which is slidable back and forth, the pinion being in constant mesh with a rack secured to the bed of the press, and is consecutively engageable by eccentrically mounted means for reversing rotation of the pinion during each change in direction of movement of the bar. A pair of oppositely rotating gears has portions consecutively movable into and out of cooperation with the pinion in mesh with the rack secured to the bed so that rotation of the pinion is periodically reversed. Invented by Frederick R. Molitor, South Nyack, N. Y. Unassigned. Application January 22, 1946. 12 claims.

2,430,965. INKING MECHANISM is for use with water base inks on letter press printing presses. The inking rollers have outer cylindrical surfaces made of rubber, while the fountain roller, spiral roller, and ink distributing drum are provided with outer cylindrical surfaces of a non-rusting material which is polished to a mirror surface. Chrome plating of the members has been found satisfactory because it is sufficiently light weight and can be polished to the desired degree. The fountain blade and the inner portion of the ink fountain is also provided with rust-proof surfaces. The driven speed of the form roller, in peripheral contact with the ink drum, is variable. Invented by Auburn Taylor, Charleston, W. Va. Assigned to The Goss Printing Press Company, Chicago, Ill. Application April 21, 1942. 6 claims.

2,431,069. BEARING CLIP FOR OFFSET PRINTING ROLLERS is attachable and adjustable in the ends of the shafts of either the printing or moistening rollers and may be mounted in parallel to the ductor and plate dampener rollers. The bearing clip is in the form of a bifurcated block which may be wedged into position while supporting the roll shaft end. It is formed with a pressure finger which is acted on by spring pressure to hold the shaft with whatever force may be necessary. The spring pressure may be released at will and removed from holding position so that the roll shaft end may be lifted out and the roller removed for cleaning. Invented by Leonard W. Mitchell, Seattle, Wash. Unassigned. Application November 29, 1944. 10 claims.

2,431,407. APPARATUS FOR MECHANICALLY JACKETING a moistening or inking roller of a lithographic printing machine with a tubular sleeve of absorbent fabric (such as "Molleton"). Apparatus includes a hollow mandrel dimensioned internally for snugly fitting telescopically a roller to be jacketed, and dimensioned externally for a snug fit on itself of the major portion of the length of a tubular sleeve of the absorbent material. The roller is fixedly supported. A movable bracket having an extension thereon is adapted to engage a stiffening flange at one end of the mandrel after the sleeve has been applied to the mandrel. The extension on the bracket serves to force the mandrel and the sleeve over the roller and then strip the mandrel therefrom. Invented by Norman A. Mack, Riverside, Ill. Assigned to Roberts & Porter, Inc., Chicago, Ill. Application March 13, 1946. 16 claims.

2,431,900. DIVIDED INK FOUNTAIN, for magazine or other presses, has an over-shot type fountain roller and co-acting regulatory blade extending along one side of the roller above the ink level. The fountain is compartmented by partitions extending transaxially of the roller. In one embodiment, a partition extends across the interior of the fountain beneath the roller and rises to a point immediately beneath the blade on one side of the roller and to a point above the normal ink level on the opposite side. The edge of the partition is closely spaced to the roller and blade and has a continuous groove extending about the roller periphery concentrically therewith and thence outwardly of the roller beneath the

lower face of the blade. A metal sealing strip shaped as the sector of a ring is received in the portion of the groove remote from the blade and partially encircles the roller. The strip is yieldably urged into contact with the roller by means of a sheet metal spring of undulatory shape interposed between bottom of groove and the strip. A strip of pliant sealing material is seated in the remaining portion of the groove and contacts the portions of roller and blade opposed to it. The adjacent ends of the strips are abutted together. The frictional drag on the metal strip, incident to rotation of the roller serves to shove the metal strip endwise along the groove toward the pliant strip and thereby crowd the latter into contact with roller and blade. Invented by Emory W. Worthington, Chicago, Ill. Assigned to Goss Printing Press Company, Chicago, Ill. Application November 27, 1944. 16 claims.

2,431,921. **BENZOYL PEROXIDE TREATMENT OF REACTION PRODUCTS OF DIISOCYANATES WITH LINEAR POLYESTERS**, the materials, being usable in the manufacture of rollers, blankets and stereos for use in the printing industry as well as in the manufacture of insulated wire, transmission belting, coated fabrics, etc. Patent claims the step of forming a mixture of benzoyl peroxide and a specified diisocyanate-modified polymeric product and heating the mixture at 100° C. to 150° C. to effect curing, the mixture containing 1.0 to 5.0 parts of benzoyl peroxide per 100 parts by weight of the diisocyanate-modified polymeric product. Fillers such as iron oxide, and pigments may be used; also usable are other plastic materials, e.g., vulcanized vegetable oils, detackifying agents such as oleic, lauric and stearic acids, etc. Invented by James Gordon Cook, Manchester, and Raymond Seymour, Birmingham, England. Assigned to Imperial Chemical Industries Limited, a corporation of Great Britain. Application January 30, 1945; in Great Britain January 28, 1944. 1 claim.

2,432,133. **DEVICE SEPARATES PRINTING ROLLERS** whenever sheet feeding has ceased so as to prevent the compressing roller from unnecessarily gathering ink. An electric circuit is insulated from the machine and includes a pair of contacts, one of which intermittently shifts towards the other in the path of the sheets being fed towards the printing rollers. The arrangement is such that the contacts complete an electric circuit in the absence of paper feeding so as to energize a solenoid. The latter is connected with suitable mechanism for separating the rollers. Invented by George Babicz, Chicago, Ill. Unassigned. Application December 13, 1944. 9 claims.

2,432,364. **BLOCK PRINTING DEVICE** aims to produce the same results by semi-automatic means as in skillful block printing by hand, thereby to increase production. This apparatus for block printing on silk or other fine fabric has a table for supporting the material, a printing block, and a vertically extending slide-guide to maintain the printing block in constant orientation or parallelism to the table surface. The block may be moved to successive positions over the table. The printing block is so mounted and controllable that it may be released, in making successive impressions by impact, for falling movements at each impression through the same height on to the material. The impact may be varied by varying weighting blocks or by varying the height of the fall. The printing block and ink supply are preferably mounted for movement together from one printing position to another, and for relative movement, to enable the block to be inked between impressions. Invented by Bernard Wykes, Crayford, England. Assigned to David Evans & Company Limited, Crayford, England. Application June 26, 1942; in Great Britain July 24, 1941. 1 claim.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

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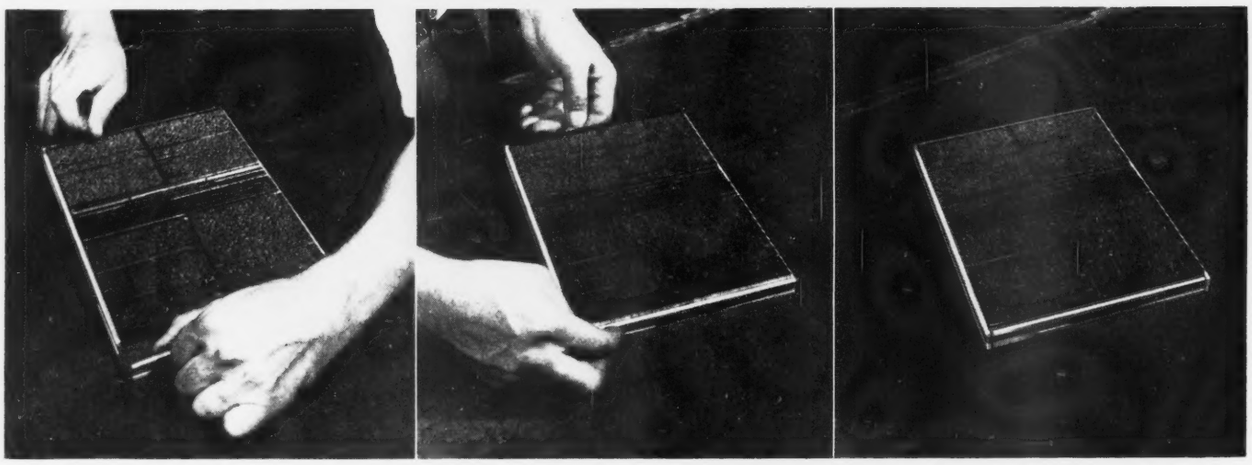

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Challenge Semi-Steel Imposing Surfaces are two inches thick with heavy reinforcing ribs at right angles to prevent sag. The tops are precision ground to a high degree of accuracy and will maintain that accuracy when properly supported. Furnished with or without rabbet for standard galleys.

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EXECUTIVE ¶s

I. M. Bernstein, who recently resigned as Director of the National Printing Ink Research Institute at Lehigh University, has joined the organization of Gotham Ink & Color Co., Long Island City. Mr. Bernstein is the holder of several United States patents in the printing ink field. He will be directly in charge of research and production in his new connection.

Some of the scientific and technical organizations of which he is a member are the American Chemical Society, the American Oil Chemists' Society, the New York Printing Ink Production Club, and the New York Chemists' Club.

I. M. Bernstein is now in charge of production at Gotham Ink & Color Co.

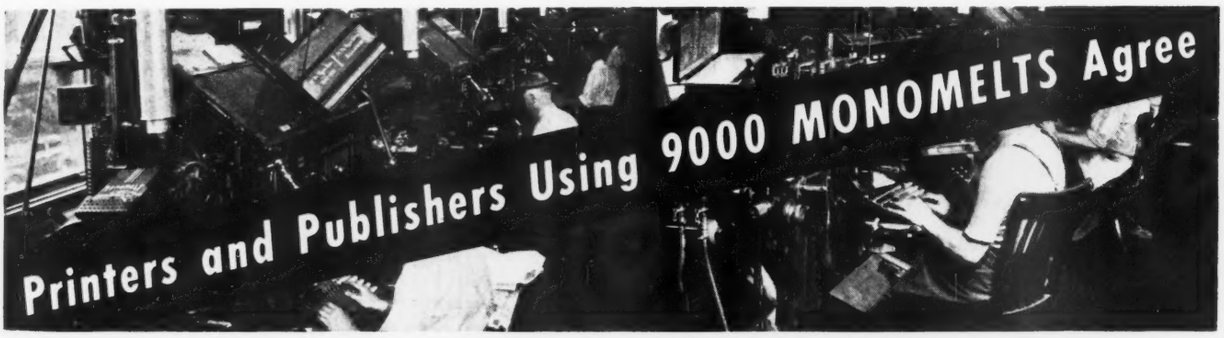
Appointment of Fred Gebhard as Southeastern Sales Representative for R. Hoe & Co., Inc., was announced by Arthur Dressel, Hoe's vice president and general sales manager. Mr. Gebhard's headquarters will be in the company's New York office and his territory includes West Virginia, North Carolina, South Carolina, Georgia, Alabama, Florida, as well as eastern Tennessee and Kentucky. Mr. Gebhard became associated with the Hoe company in 1916. Later he completed special engineering courses at Cooper Union in New York City.

Fred Gebhard, appointed Southeastern Sales Representative for R. Hoe & Co., Inc

R. Verne Mitchell, board chairman of Harris-Seybold, has been elected a director-at-large of the National Association of Manufacturers, according to *NAM NEWS*, official publication of the Association. Among other association activities, Mr. Mitchell was recently named a director of the Lithographic Technical Foundation and was reelected president of the National Printing Equipment Association.

J. T. Backus, special assistant to the Director of Sales of The Champion Paper and Fibre Co., died at his home on December 5 after a short illness. He had been with Champion for the last 20 years.

Dr. Richard D. Dresdner, physical chemist, has joined the staff of Battelle Institute, Columbus, O., where he will conduct research in graphic arts technology. Dr. Dresdner is a graduate of New York University and received his Master of Science and Doctor of Philosophy degrees from Pennsylvania State College, where he has been a research assistant for the past six years. He is a member of the American Chemical Society and various scientific honor societies.



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Three promotions of West Coast staff members have been announced by Federated Metals Div., American Smelting and Refining Co. Louis D. Alpert has been named Assistant to the Pacific Coast General Manager; John S. Selfridge, jr. has been promoted to Superintendent of the San Francisco plant; and Robert C. Caldwell has been promoted to Assistant Superintendent of the same plant.

DeWitt Van Scoy was recently added to the Southwestern District Office and will represent Intertype in the States of Arizona, New Mexico, and in El Paso, Tex. Before joining the company, he was mechanical superintendent of the Santa Ana Printing Co., Santa Ana, Calif.

Walter F. Streit has been appointed representative in Kentucky. Prior to his appointment, he erected and inspected machines in the service department of Intertype's Midwestern District Office and also served as a member of the field service force. Carrol D. Johnson has joined the Southwestern District Office of Intertype's sales organization located at Los Angeles, Calif. He is representing Inyo, Kern, San Bernardino, Riverside and part of Los Angeles county. Clyde W. Shook recently became part of the sales staff at the Southwestern District office and will represent the company in Ventura, Santa Barbara and part of Los Angeles County in California. Prior to joining Intertype, he was with Weaver Publishing Co., of Santa Monica, Calif.

Ray Perin, of the Ira G. Perin Co., for 35 years the west coast representative for Elwell-Parker trucks, has been elected president of the 14-year-old Materials

Ray Perin, west coast representative for Elwell Parker, was elected president of the Materials Handling Assoc., of Northern California.

Handling Association of Northern California. Perin is a graduate of Stanford University. He served with the Goodyear Rubber Co. at its British plant during the war. Upon his return he joined the Ira Perin company.

Having recovered from his recent illness, L. S. (Sam) Allstrum has joined the Howard Flint Ink Co. as Assistant to the President. Formerly, Mr. Allstrum was General Manager of the George H. Morrill Co. Entering the industry originally in San Francisco, Mr. Allstrum

L. S. (Sam) Allstrum joins Flint Ink Co. as assistant to president.

was promoted to executive positions in Chicago, Boston and New York. While Mr. Allstrum's services will be available nationally, he is making his headquarters at the new Los Angeles Factory of the Howard Flint Ink Co.

William (Bill) Heiser, one of the best known and most respected and loved personalities in The Graphic Arts industries, died suddenly in his Amityville, Long Island home Friday, December 12. He was 70 years old and had been a member of the Harris-Seybold organization for more than 35 years. In June Heiser was promoted from Eastern District Service Manager to Special Representative for the Harris-Seybold Co. This move was made by J. W. Valiant, Vice President and Eastern District Manager. Heiser was an accomplished amateur magician and was active in the Amateur Magicians Association of America.

Charles H. Stout, for some time Assistant to President Clifford Yewdall of

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Matrix Contrast Corp. is now Assistant General Manager of Speidel Newspapers, Inc. He commenced his new duties January 1. Announcement was made by President Merritt C. Speidel. Stout will assist Harry S. Bunker, General Manager of Speidel Newspapers. Stout will be associated with the Colorado Springs, Colo. office of the Speidel group. Stout's career in the printing industry started in Iowa City, Ia., where the first newspaper of the Speidel group is located. Progressively he was bookkeeper, compositor and business manager of the University of Iowa *Daily*

Iowan. He associated himself with Matrix Contrast Corp. in 1929 as sales representative. He was made vice president, director and sales manager of Matrix Contrast in 1939. During the war he served the Navy in Cuba and Hawaii and separated from the service with the rank of Commander. He is well known to many business and mechanical executives throughout the country as the result of his travels for Matrix Contrast Corp. He was graduated from the University of Iowa in 1929. He is a member of Reserve Officers Naval Service, International Typographical Union and Phi Kappa Sigma fraternity.

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4. It is an accurate press. It is practically impossible for two sheets to go through the feeder at once. The ability to raise and lower the blower to the height of the pile makes feeding easy. We like the ease with which the near and far guides are set, and the micrometer settings of the guides. Register is better.

5. It is a safe press. All moving parts are covered and the bed is safe.

6. It is an easy press to operate. Adjustments and changes can be made usually with a flick of a finger. Rollers are easy to adjust. The fountain is set quickly and the removable blade makes it simple to clean. We like the automatic delivery table, too, and the overhead gas flame.

As you can see, we're pretty happy with the Little Giant. The fact is, we have three new ones on order and are eagerly awaiting their delivery.

Yours very truly,
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Joseph F. Rothchild
Joseph F. Rothchild

"

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An accurate press . . .

Easy press to operate...

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"

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